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COVER FOCUS

The Year In Review

We provide a quick look back at some of the year's biggest newsmakers.

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Information thieves use social engineering attacks, manipulating human behavior until company employees unwittingly hand over everything they need. Whatever the attack vector, whatever the ploy, an enterprise has many options to fight back.

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The Year In IT

A Look At The Highs & Lows Of 2008

by Carmi Levy

LOOKING BACK AT THE YEAR as it draws to a close isn't just an annual tradition in IT. It's an important part of the planning cycle that prepares the organization for next year's challenges. As worries about the economy deepen, these reflections become even more critical to the organization's future. In that context, 2008 was a monumental year for IT

Widespread Financial Meltdown

"From my perspective, 2008 will be known as the year of increased focus on business resiliency and risk management," says Roberta J. Witty, research vice president at Gartner. "That's largely a result of the financial crisis."

Witty adds that work by government agencies—including the Department of Homeland Security—to tighten oversight activities is already prompting IT departments to re-evaluate their plans.

"The voluntary certification program for emergency preparedness came out of 9/11," says Witty. "Now, because of the financial crisis, we assume there will continue to be more regulation around risk management. These two things are driving this change in thinking."

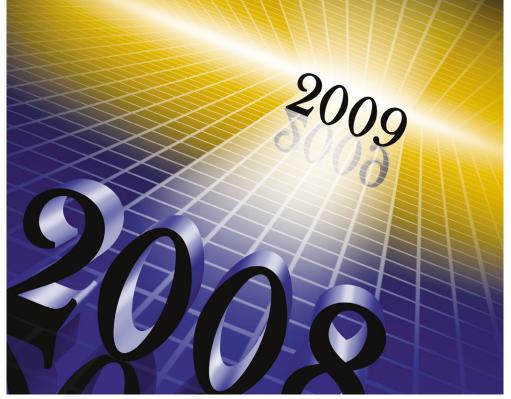


Michelle Warren, president of Torontobased MW Research & Consulting, says consumer-focused technologies made their influence felt within enterprise this year as never before. Apple and Facebook, in particular, benefited from the trend of consumers bringing their products—and habits—into the workplace.

IT has to care, says Warren, because those consumers are often executives who bring their new iPhones into work and insist that IT simply "makes it work." Warren says this trend is closely related to rapidly growing reliance on social networking tools.

"Social networking infiltrated the minds of marketing, advertising, and PR departments, as well as journalists," she says. "We started to see things such as Facebook, LinkedIn, and Twitter become more important than email."

Go to Page 10



Prepare Your Enterprise For Social Engineering Attacks

Protect Valuable Info By Educating Employees

by David Geer

MOST SMES HAVE PRICELESS customer data, intellectual property, or both. In the wrong hands, they are wares for the black market, selling at a premium to the highest bidder. How do information thieves purloin the precious electronic cargo? They use social engineering attacks, manipulating human behavior until company employees unwittingly hand over everything they need.

Attacks range from tricky email links that lead the unsuspecting to hand over usernames and passwords to faux IT staff who offer to fix nagging computers only to rifle through company information. Whatever the attack vector, whatever the ploy, an enterprise has many options to fight back.

Common Socially Orchestrated Data Breaches

To defend against these surreptitious data spies, enterprises should first school themselves in the schemes they use. Those trick emails, for instance, are called phishing attacks. The subject of the spam will likely be something urgent or enticing so the recipient will open it. "A lot of recent attacks are around the financial crisis," says Kevin Prince, chief architect, Perimeter eSecurity (www.perimeterusa.com).

For instance, the message might purport to be from a bank that bought the consumer's bank. The message will instruct the recipient to click a link and enter some account information to ensure his account is safe. The FTC (Federal Trade

Commission) recently warned of a series of

In targeted attacks, the emails target employees of a specific company on a specific Web domain. Experts call these attacks spear phishing. For these attacks, the social engineers first research the business on the company Web site and social networking sites such as Facebook, Prince explains.

Then, they make the email appear as if it is from someone at the organization. "Using the company directory, which is often available on the organization's Web site, an attacker will locate an employee or executive email address," says Gregory D. Evans, ex-hacker and security professional, Ligatt Security (www.ligattsecurity .net). Because the email seems to be from a co-worker, supervisor, or someone in technical support, employees may do whatever the message asks of them without question.

Other common deceptions include impersonating someone from IT to get in and initiate an attack in person. "Attackers use small amounts of unrelated

Go to Page 10

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STORAGE **DECEMBER 19. 2008**



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The Barracuda Backup Service Web control panel makes it easy to manage and back up data to multiple units at one or more locations—from anywhere. It also provides control of settings, reports, restores, statistics, and account information in order to manage Barracuda Backup Servers and Barracuda Backup Subscription plans. In addition, customers receive automated alert notifications via the Web control panel when conditions affecting backup service are detected.

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DECEMBER 5, 2008



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Allowing employees to take company laptops containing confidential information outside the office is a security risk. If the laptop is lost or stolen, the data on the laptop is compromised and could fall into the wrong hands. Instead, use the I'm InTouch SecurePC and keep your data safely behind your corporate firewall.

The SecurePC remote access terminal allows businesses to provide their employees with all the freedom of laptops without the security risks. Instead of storing their work on a laptop, employees can use the SecurePC to remotely control their office workstation from anywhere over the Internet using 01 Communique's I'm InTouch Premium remote access solution. No files can be saved to SecurePC, ensuring no data leaves the safety of the corporate network.

For even more security, add the SecureKEY physical authentication USB device to prevent

unauthorized remote access to company workstations. Only a computer with an employee's personal SecureKEY inserted into its USB slot can be used to remotely access the employee's workstation in the office. Even if the employee's remote access login password were compromised, unauthorized access would not be possible because the SecureKEY would not be present.

By combining the SecurePC, SecureKEY, and I'm InTouch Premium solution, businesses can deploy an incredibly secure remote access platform quickly and cost-effectively, without any performance sacrifices.



Remotely Monitor, Control & Report Power

Black Box Elite Managed Power Controller

With today's skyrocketing utility bills and the higher energy consumption caused by everincreasing computing power demands and server density, you can't afford not to keep a close eye on power usage in your data center-particularly after hours.

The Elite™ Managed Power Controller from Black Box provides advanced power monitoring and environmental monitoring capabilities. It not only distributes power to your equipment, it also enables you to continuously monitor circuit status, voltage supply, and current. Use it to measure and record kilowatt hour draw and to monitor individual outlet usage as well.

You can even check power and temperature levels remotely to pinpoint peak levels in data centers. Then you can remotely switch power on and off to individual outlets or groups of

outlets, enabling you to selectively power down unused equipment to conserve power.

To conserve energy in your data center at certain times of the day, just set up time-delayed or scheduled shutdowns. You can use the controller to turn off unused equipment during off hours and restart in the morning or when needed. It's an inexpensive, simple way to be "green."

With additional features such as message notification, advanced circuit breaker protection, report generation, four levels of access, customizable alarms, and automatic load shedding, the Elite Managed Power Controller from Black Box takes power management to the next level.



SERVICES DECEMBER 19, 2008

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STORAGE November 28, 2008



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As companies grow and change, their storage needs also change. Storage can be complicated as companies migrate data to new platforms, develop remote data centers, and simply outgrow their old storage solutions. iQstor's iQ2850 storage system is designed to offer companies a scalable, feature-rich storage solution to fit the performance and reliability needs of current applications.

Designed to offer all the increased storage utilization, managed data protection, and automated storage provision-

ing benefits of a SAN, the iQ2850 is an intelligent yet cost-effective all-in-one storage system, giving data center managers the ability to optimize storage quickly and cost-effectively.

Features include the ability to implement a large, tiered IP SAN storage system with support for up to 15TB with 1TB SATA drives, expandable up to 240TB. RAID controllers, power supplies, cooling modules, and disk drives are hot-swappable.

Despite the enterprise-level capabilities of the iQstor iQ2850, it's designed to be a low-cost and simple storage system, ideal for companies that need to consolidate multiple servers without the need for specialized host adapters, switches, and cables. Other benefits include integrated data protection features such as volume manager-based storage virtualization, snapshot, mirroring, remote replication, policy-based storage provisioning, capacity expansion, and remote support. Supported platforms include Microsoft Windows, VMware and Linux.

SECURITY DECEMBER 5, 2008

QiQstor



Portable Surveillance Gets Rugged

DNF Security JetX

Portable surveillance is a powerful way to maintain security in rough environments. Whether it's a construction site in a remote location or the scene of an emergency, portable surveillance provides crucial help when it's needed most. DNF Security's JetX surveillance solution is ideal for mobile, offsite monitoring and recording.

The series of devices includes three models with rugged systems designed to work in severe conditions with no interruption. The units each have one 15-inch or three 17-inch high-resolution LCD displays and an open platform for better compatibility with equipment such as cameras and video management software.

The triple-screen systems support up to 3TB of storage. All JetX

systems feature a built-in high-resolution display, integrated keyboard and touchpad, and a rolling carrying bag.

The JetX M-Powered product features a battery-powered system designed to provide long-lasting power in off-road applications and is also available in hybrid editions. The hybrid editions support up to 32 analog and eight IP cameras. Single-display JetX systems feature 2TB of internal storage capacity and a dual-core Xeon processor.



Messaging & Telephony

NOVEMBER 28, 2008



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Multi-Tech Systems' two-channel MultiVOIP GSM SIP-to-Cellular gateway routes calls from SIP end points on a VoIP network to locations outside the VoIP system through cellular network instead of the PSTN line.

By routing voice calls between cellular GSM and SIP-based VoIP networks, organizations see substantial savings for long distance calls. The new gateway makes the whole world a local call and also provides a backup connection to remote VoIP sites in case of external Internet failure. A MultiVOIP GSM gateway maximizes an organization's investment in current telephony equipment and infrastructure.

MultiVOIP GSM units equipped with GSM cellular service are placed at facilities worldwide. Calls can be sent to any of those locations using a VoIP network and sent locally to a cell phone over the GSM network.

The new gateway, Model MVPGSM-2, comes with two ports for communicating over a SIP-tocellular connection and an Ethernet interface for connecting to an IP network. SIP-IP network ends are connected at desired locations using the Ethernet interfaces. The cellular interface of each MultiVOIP GSM is connected to a GSM network by one or two user-supplied SIM cards. IP PBXes also connected to the same IP network are then able to utilize the MultiVOIP GSM to complete calls over the cell networks.

Routing rules decide where calls go. With routing rules, a caller in one country can call a cell phone in another country without incurring toll charges. Calls can originate or terminate from an IP PBX handset, PSTN line, or cell phone.



News

HP To Offer Software Financing

HP announced a financing option offered on many of its software staples. In a promotion slated to end Jan. 31, HP is offering 0% financing for up to 36 months on licensing and support costs on business technology optimization and information management software contracts totaling more than \$100,000. With this program, HP joins such companies as Microsoft and Dell, which have also established low- or no-interest financing options. Industry analysts are praising the move, saying that extending credit to companies that may not otherwise be able to attain financing is a great way to establish customer loyalty when the economy recovers.

AMD Drops Q4 Revenue Estimate



Adding its voice to an all-too-familiar chorus, AMD revised its fourth-quarter outlook for continuing operations downward, citing weakness in the economy. The CPU and graphics chipmaking competitor to Intel warned that its revenue for the fourth quarter ending Dec. 27 will most likely fall 25% short of third-quarter figures, which will put it in the neighborhood of \$1.189 billion, not counting revenue from process technology licensing. The company blamed weak demand on all fronts and across its entire line of products, but especially in the consumer sector. AMD will officially announce its fourth-quarter results Jan. 22.

Cisco Faces Monopoly Lawsuit



Independent service organization Multiven filed an antitrust lawsuit against Cisco in San Jose District Court, alleging that the networking giant's status in the market qualifies it as a monopoly. Multiven seeks improved access to the maintenance market for Cisco equipment, saying the company illegally restricted updates and bug fixes for its operating system to paying customers of its SMARTnet maintenance service. Cisco disputes the allegations, saying, "Cisco customers are in no way required to purchase services from Cisco. There are thousands of partners who offer service programs for Cisco products, including bug fixes."

Seagate Lowers Revenue Forecast, **Announces Holiday Shutdowns**

Company

Dell

HP

IBM

Intel

McAfee

Oracle

Microsoft

Symantec

Red Hat Software

Sun Microsystems

Google

Computer Associates

Cisco Systems

Seagate has joined the ranks of companies lowering their financial forecasts for the upcoming

Symbol

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ORCL

RHT

JAVA

SYMC

Year Ago

\$8.97

\$26.13

\$28.80

\$24

\$699.35

\$51.53

\$108.47

\$27.28

\$38.19

\$34.47

\$21.37

\$19.33

\$19.05

\$17.41

quarter. Citing slowed demand, the hard drive maker announced it was lowering its secondquarter revenue outlook to between \$2.3 billion and \$2.6 billion, down from its original forecast of between \$2.85 billion and \$3.05 billion. In addition, Seagate announced that because demand is low this season, it will be closing its offices over the holidays in an effort to save money. Following the forecast announcement, Seagate's stock rallied, climbing 8%.

■ Microsoft Taps Former Yahoo! Exec

Despite Microsoft publicly stating in recent weeks that its pursuit to acquire Yahoo! is over, the company may have just secured the next best thing with the hiring of Dr. Qi Lu. As of Jan. 5, the former 10-year Yahoo! veteran and former executive vice president of engineering of Yahoo!'s Search and Advertising Technology Group will become president of Microsoft's newly formed OSG (Online Services Group), reporting to CEO Steve Ballmer. In July, Microsoft split its Platforms & Services Division into the OSG and a Windows/Windows Live Group. Lu will reportedly oversee OSG's Advertiser & Publisher Solutions business, Online Audience business, OSG Research & Development, and OSG Finance. In a Q&A session Microsoft posted Dec. 10, Lu says that although Google is a "very powerful company" and "ahead in the search space," Microsoft is "here to win." To do that, he says, "fundamentally you build on the strengths of your product. And we know what it takes to build a compelling user experience and winning product, which is to have a powerful infrastructure, great talent, and put great processes in place so that we can out-develop, out-market, out-innovate our competitors."

Sony Will Cut 8,000 Jobs . . .

Sony, the world's second-largest maker of consumer electronics, will eliminate 8,000 full-time jobs, or about 5% of its electronics workforce. The cuts will primarily come in Sony's unprofitable businesses. Sony also plans to cut another 8,000 part-time and seasonal jobs; reduce investments by about a third; and close up to six of its 57 factories, including a closing already announced in France. In other costcutting and revenue-producing moves, Sony will outsource production on several parts and, in the face of a weakened euro but strong yen, raise pricing on products to save about \$1.1 billion through March 2010. "Now we are all facing a recession together, it's impossible to predict how much longer the situation will last," stated Naofumi Hara, Sony senior vice president.

... & Close Last U.S. Television Plant

Sony says it will close its television manufacturing facility in Westmoreland, Pa.,-the only such facility Sony has left in the United States. The closing comes as part of Sony's global restructuring moves that will ultimately result in closing several additional factories and losses of about 8,000 jobs. It's uncertain how many people will

Dec. 12 \$

\$2.28

\$17.45

\$16.99

\$11.48

\$315.76

\$35.97

\$82.20

\$14.75

\$29.50

\$19.36

\$16.84

\$11.65

\$4.09

\$12.49

1.04%

▲ 8.66%

▲ 6.59%

▲ 7.19%

11.19%

▲ 7.28%

10.99%

4.98%

7 2.57%

▲ 3.19%

4.35%

17.19%

▲ 3.74%

A 2%

This information provides a quick glimpse of current and historical stock

prices and trends for 14 major companies in the technology market.

Dec. 5 \$

\$2.13

\$16.06

\$15.94

\$10.71

\$283.99

\$33.53

\$80.59

\$13.29

\$28.10

\$19.87

\$16.32

\$12.18

\$3.49

\$12.04

lose their jobs at the Westmoreland plant, with estimates ranging between 500 and 800. Manufacturing at the plant is scheduled to end early next year, with the plant expected to close completely in March 2010. Sony televisions sold in the United States will now come from Mexico.

Verizon Makes 4G Plans

Verizon Wireless will begin the deployment of its 4G LTE technology by the end of next year, according to Dick Lynch, executive VP and CTO of Verizon Communications. Lynch made the statements at a gathering at Cisco's C-Scape conference. Lynch also said Verizon Wireless has plans to launch a line of LTE femtocells with Wi-Fi capability to expand wireless signals indoors. Verizon began its endeavor to get LTE going when it spent \$9.36 billion to pick up the highly coveted 700MHz spectrum via the

IDC Lowers **PC Shipment Expectations**

Research firm IDC has joined a host of other research groups that, based on the current economic troubles, have lowered their expectations for worldwide PC shipments next year. IDC now expects worldwide PC shipments to grow 3.8% in 2009, but it says the overall value of those shipments will fall by about 5.3%. IDC had earlier expected shipments to increase 13.7% and increase 4.5% in value. PC shipments in the United States are expected to decline by about 3% next year, with desktop and x86 server shipments dropping more than 12%. "Portable PC adoption, falling prices, and system replacements remain the key drivers," says Loren Loverde, director of IDC's World-

Human Error Greatest Threat

A recent study of UK IT directors from YouGov found that basic human error poses the greatest threat to a company's IT security. The study, commissioned by network security provider Clavister, found that 86% of the IT directors surveyed say the most likely cause of a security issue comes from their own employees. The primary reason for the security issues are that workers ignore, aren't made aware of, or aren't trained on security policies. About 31% of respondents say that consciously ignoring security policies is the cause of a security problem, while only 5% think the cause is industrial espionage. On the whole, the study found that workers need to better understand why security policies are important, rather than IT staff giving workers documentation that's technical and complicated.

Semiconductor Sales

Following a 5.7% increase in 2007, a report from SEMI indicates that global semiconductor

Additionally, SEMI forecasts that 2009 will see a 21% decrease, followed by a 31% growth in 2010. Wafer processing equipment, which is the largest product segment by

dollar value, has declined by about 28% to \$22.95 billion, and the market for equipment to test semi-

conductors dropped by about 27% to \$3.69 billion. Overall sales of new equipment declined by 35% in China, while the rest of world dropped by 10%. The report also notes that although South Korea's sales of new equipment slowed by 20%, South Korea will pass Taiwan and become the leading region

FCC spectrum auction held early this year.

wide Quarterly PC Tracker.

To IT Security

Decline To 2003 Levels

sales will decline by almost 28% in 2008.



for the sales of new semiconductor equipment.

Upcoming IT Events

Are you looking to learn more about data center or IT topics? Network with some of your peers? Consider joining a group of data center professionals. If you don't see a meeting listed in your area, visit www.afcom.com, www.aitp.org, or www.issa.org to find a chapter near you.

- JANUARY -

Storage Visions 2009

Conference Jan. 6-7

Las Vegas, Nev. www.storagevisions.com

AITP Washington D.C.

Jan. 8, 6:30 p.m. Alfio's Restaurant 4515 Willard Ave. Chevy, Md. aitpwashdc.ning.com

. AITP Chattahoochee Valley

Jan. 15, 12 p.m. Columbus Regional Library 3000 Macon Road Columbus, Ga. www.cvcaitp.org

AITP Omaha

Jan. 15, 5:30 p.m. Seraph Corp. Omaha, Neb www.aitpomaha.org

. ISSA Upstate SC

Jan. 16. 11 a.m. NuVox 301 N. Main St., Suite 5000

Greenville, S.C. www.upstate-issa.org/index.htm

> AITP Pittsburgh Jan. 19, 6 p.m. Sokol Club-Southside 2912 E. Carson St. Pittsburgh, Pa. www.aitp-pgh.org

. Oklahoma City AITP Chapter

Jan. 20 Oklahoma City, Okla. www.aitp.org/organization/chapters /chapterhome.jsp?chapter=40

Florida Educational **Technology Conference**

Jan. 21-24 Orlando, Fla. www.fetc.org

. Gartner CIO Leadership Forum Jan. 25-27

Palm Springs, Calif. www.gartner.com/it/page.jsp?id=770919

> ISSA Des Moines Jan. 26, 11:30 a.m. 1401 50th St., Suite 200

West Des Moines, Iowa

ISSA Baltimore Jan. 28, 4:30 p.m.

Sparta Inc. 7110 Samuel Morse Drive, Suite 200 Columbia, Md.

- FEBRUARY -**AFCOM**

www.issa-balt.org

St. Louis Gateway

Feb. 9 Schneider Electric **Technology Center** 807 Corporate Centre Drive

O'Fallon, Mo. www.afcom.com/afcomnew/stlouis.html

AITP Washington D.C.

Feb. 12, 6:30 p.m. Alfio's Restaurant 4515 Willard Ave. Chevy, Md. aitowashdc.ning.com

AITP Pittsburgh

Feb. 16. 6 p.m. Sokol Club-Southside 2912 E. Carson St. Pittsburgh, Pa. www.aitp-pgh.org

Oklahoma City **AITP Chapter**

Feb. 17 Oklahoma City, Okla. www.aitp.org/organization/chapters /chapterhome.jsp?chapter=40

NOTE: This information is meant for reference only and should not be used as a basis for buy/sell decisions

PRODUCTS AT WORK

Smooth Connectivity

Exanodes Provides NASA Division With Reliable, Scalable File Server Connections

by Robyn Weisman

NASA'S INFRARED PROCESSING and Analysis Center performs all the infrared processing and study of ground- and space-based telescopes. IPAC's responsibilities are monumental under the best of conditions, given that the cameras used in these telescopes are getting more sophisticated and require more processing power and storage capability than ever.

But NASA has strict protocols for budgeting hardware and software used in various projects such as IPAC's. "Because of the NASA budget and the way NASA works, we cannot share hardware with each other. Project A cannot buy hardware [or] software and let project B use it. Each project has to stand on its own," says Eugean Hacopians, IPAC senior systems engineer (www.ipac.caltech.edu).

Hacopians was looking for a software-based shared storage solution for his latest project, the Palomar Transient Factor, or PTF, in which IPAC would monitor the Palomar telescope, which would be scanning and capturing information on 80 to 90% of the night sky. This solution needed to set up and maintain a transparent storage setup using existing hardware, provide NFS (network file system) connectivity no matter how many nodes were added to the computer cluster, and prevent bottlenecks from occurring.

Then Hacopians was introduced to Exanodes, a software-based SIS (shared internal storage) solution from Seanodes (www .seanodes.com). Exanodes was one of the few solutions that Hacopians could afford because it did not require IPAC to purchase additional hardware on which to run it. To Hacopians' surprise and delight, Exanodes not only has performed as advertised, it also has additional benefits that will make it fairly easy to build out the PTF cluster as it grows to 300 to 500TB in size.

More Than A File System

One of the problems Hacopians was facing was the issue of NFS connectivity because even with high-performing processors, bottlenecks are a real problem. "The problem arises at the time they connect everything together, and theoretically it should work, and suddenly someplace they hit a snag," Hacopians says.

The problem of effectively sharing information among nodes only becomes worse as the number of nodes grows. "You have 20, 30, or 50 nodes beating down on a file server, and so you're spending a lot of money on the nodes to actually do your processing," says Hacopians. According to

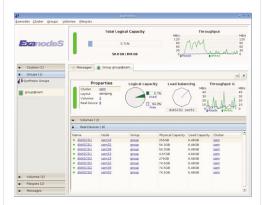
another computer does that, you're still adhering to that single point of failure issue that you've always had, and [although] you can connect one raw device to each of your nodes, that's not sharing information."

In contrast, Exanodes takes a multilayered approach that allows Hacopians to use his own hardware and install it on the clusters themselves. "We can use any kind of storage we have, [whether] it's in-house or less expensive storage that we can buy,



him, you need to account for the network connectivity that your nodes have to their file server and anticipate their needs to avoid having what he calls "another firefighting issue" on your hands.

For the PTF project, Hacopians wanted to find some kind of a file system that could grow dynamically and also act, at least to a certain point, as a clustered file server system. Hacopians runs Exanodes on every single PTF project node, and via Exanodes, information gets relayed between all the nodes without requiring a traditional file server.



According to Hacopians, few of Exanodes' competitors provide users with a file system. "The majority of them just provide you a raw device [that] you import into another file server as you will, and then you will use that as a file server and put the structure of the file server on that raw device," says Hacopians. "But because

[unlike those solutions offered by] the other companies," which would require him to buy hardware, as well.

High Availability & Visibility

Exanodes also allows Hacopians to view a piece of storage from any one of the nodes in his system. "Exanodes gives you full visibility of all the information any node has, so it's a true clustering file system," he says. "It's fully configurable in the sense you can set up your redundancies the way you want [them] based on your requirements or based on what you can do. You can set up your failure scenarios, set up spare pools, and it's easy to add hardware later."

According to Hacopians, Exanodes connects partial storage via its software layer from three to however many nodes Hacopians needs. "You not only can use the internal drives of those you may not be using at given time, you can also attach external storage to several of your nodes and glue them together using Exanodes, actually spreading the load," he says.

In addition, Hacopians likes the tiered-level approach Exanodes uses. "The file system layer is based on Linux GFS, and there are lots of things [Exanodes does] under the hood," Hacopians says. "The first layer makes drives visible on [the] network, [while] the second layer [handles the] way you cluster things together. Once these nodes are glued together, you can create one of two things: a raw volume

that can be seen on multiple nodes or a file system on top of it."

Installation & Customer Service

Hacopians says that Seanodes customer and technical support also played a huge role in choosing Exanodes. Seanodes has provided IPAC with complete support from the moment Hacopians considered purchasing the software. Seanodes even sent an engineer out to put Hacopians and his group through training. "No matter how good a product is, you want to make sure the company is responsible and can help us in any questions we might have, firefighting we have to do, and so forth," Hacopians says.

Implementation of Exanodes took a little time because, as Hacopians says, there are always snags with any new product. "It took us a week to 10 days to get set up and running, contacting engineers, sending log files, and getting information back," Hacopians says. During the installation process, Hacopians discovered that the way his group was kickstarting Linux was causing problems, and Seanodes support showed him both how to fix the immediate issue and solve a problem his group was having with cluster deployment in general.

With Seanodes' help, Hacopians says he needed only two minutes to install Exanodes, and within a half-hour, he had clusters and storage properly set up and configured. Afterwards, Hacopians recommended to Seanodes that it make "a list of things to do before you install, so you don't have to answer similar questions of other customers" because the help Seanodes was able to provide to Hacopians was so easy to follow and worked so well.

Seanodes Exanodes

A software-based shared storage system solution that enables users to share data among cluster nodes using often-underutilized hard drives within the network. Exanodes can be used on most clusters regardless of hardware.

"Exanodes gives you full visibility of all the information any node has, so it's a true clustering file system," says Eugean Hacopians, senior systems engineer of NASA's Infrared Processing and Analysis Center (www.ipac.caltech.edu). "It's fully configurable in the sense you can set up your redundancies the way you want [them] based on your requirements or based on what you can do. You can set up your failure scenarios, set up spare pools, and it's easy to add hardware later."

(866) 580-5115 www.seanodes.com

SECURITY November 28, 2008



eEye Retina OnDemand is a SaaS security vulnerability management package offering rapid deployment of Retina Security Management appliances.

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Security Vulnerability Management

eEye Retina OnDemand

As companies continually enhance, tweak, and shore up security, one crucial area that IT administrators focus on is vulnerability management. eEye's Retina Enterprise scanning package offers a SaaS model to deliver proactive security measures that can be deployed without the need for customers to manage software or agents within their infrastructure.

Retina OnDemand is designed to simplify the vulnerability management process by offering companies rapid deployment of Retina Security Management appliances and the ability to scan results, schedule, and report with a standard Web browser. Users don't need to set up servers, configure databases, or install software. Retina OnDemand is black box technology that can be plugged in to a company's environment for

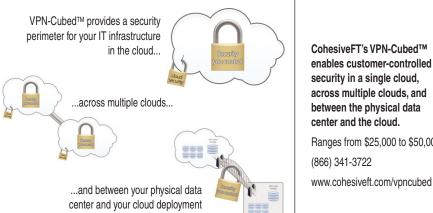
a hands-free approach to management and regulatory compliance.

By leveraging Retina's fully preconfigured 651 Security Management Appliance, users can perform a full scan, review results, generate reports, and download information to tools such as Microsoft Office and Adobe Acrobat after turning on the unit and logging on to their company's eEye account.

The Retina 651 Security Management appliance is designed to meet PCI, FDCC, SANS, HIPAA, Sarbox, and GLB internal scanning requirements. To use Retina OnDemand, users need only outbound ports to communicate with eEye; no inbound ports or IP addresses need to be added to a company's firewall.

NETWORKING & VPN

NOVEMBER 28, 2008



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CohesiveFT offered a precursor to the VPN-Cubed offering in production for more than a year via the Open Source VcubeV® project. VPN-Cubed is available now as a packaged service. The basic service is available for use with most operating systems, virtual environments, and third-party cloud offerings. Implementations will vary based on a customer's unique topology.

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NOVEMBER 28, 2008

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Dig Deep Into The Network Infrastructure

Entuity Eye Of The Storm 2009

Entuity's Eye of the Storm (EYE for short) provides IT administrators with detailed information about operational, performance, inventory, and connectivity data. In EYE 2009, Entuity has added multiple interface enhancements and other features that will help IT staff turn data into actionable knowledge. For example, EYE 2009 offers graphically descriptive and interactive Web components from a single, unified display, which helps IT staff improve management workflows and avoid network support issues that may appear with oversimplified management tools or complex framework applications.

One of key additions in EYE 2009 is improvements to event handling and presentation that allow workers to acknowledge, suppress, or age-out events. Administrators can easily account for known outages, such as a devices brought down for maintenance, to prevent unwarranted SLA impact.

EYE 2009 includes a Green IT Perspective that quantifies the IT infrastructure's contribution to green IT initiatives. The Green IT Perspective features an interactive dashboard that lets users monitor IT device power consumption; track server, workstation, and network device utilization; and observe the conformance of

devices to shutdown policy. EYE 2009 reports the dollar, kilowatt hour, or C02 ton cost associated with (as well as potential savings from) network infrastructures.

With EYE 2009, Entuity introduced a new data API that helps improve EYE 2009's built-in Report Center. The new API allows for the creation of custom mashups and in-house applications from the data, and the business analysis is ideal to organize, produce, and utilize standard reports.



SERVERS NOVEMBER 28, 2008



Librato Load Manager is a workload management solution that monitors and controls server resources.

(408) 588-1716 www.librato.com

Server Consolidation Without Compromise

Librato Load Manager

Librato Load Manager is a workload management solution that helps customers deliver predictable application performance and optimal system resource utilization for x86 platforms on physical or virtual servers. Load Manager guarantees server resource utilization independently across CPU, memory, storage I/O, and network I/O, which enables customers to run more applications on fewer servers without compromising business goals.

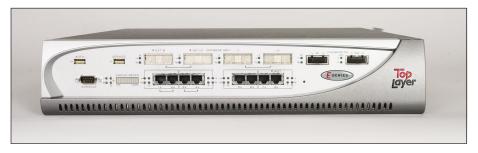
Load Manager allocates system resources via a policy-based scheduler to ensure optimal performance and service level. By maximizing server utilization and delivering application quality of service, Load Manager results in fewer servers, fewer operating systems, less complexity, and guaranteed service level agreements. By dynamically assigning unused capacity, Load Manager dramatically increases server utilization, enabling organizations to get the most out of existing

resources. Load Manager typically uses less than 1% overhead and requires no OS or application modifications.

Load Manager supports Linux and Windows Server 2003 and 2008. The solution's demandmonitoring capabilities provide an advanced level of capacity planning. In addition to allocating system resources to an application and measuring actual resource consumption (load) over time, Load Manager can also be used to project how much resource an application would have consumed (demand) had it not been limited by its allocation. This ability to determine the difference between load and demand provides organizations with a powerful tool for planning server capacity.



SECURITY NOVEMBER 28, 2008



Top Layer IPS 5500 E-Series offers defense-in-depth protection with new shunning features for blocking traffic.

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Shunning Botnets & Rate-Based Attacks

Top Layer IPS 5500 E-Series

Fighting malware such as botnets and other rate-based attacks is a top priority for every company. Top Layer Security offers its latest solution for warding off attacks with the Top Layer IPS 5500 E-Series, a family of products that offer defense-in-depth protection.

The IPS 5500 E-Series has new shunning features designed to provide companies with techniques to support the device's automated attack defense. These include the ability to quickly temporarily or permanently reject traffic from IP addresses suspected of originating or being related to an attack. The new features are designed to help companies interactively identify current attackers and then shun attack traffic.

The IPS 5500 E-Series also includes a new user interface with dashboards designed to allow Security Operation Center personnel to

quickly switch between "quiet-time" monitoring and "under siege" incident response. Other new features include attack source identification, malicious IP address shunning, and additional router protection.

With malicious IP address shunning, users can set time periods for how long each address should be shunned and manually unshun addresses that are determined safe. With additional router protection, users can export a list of IP addresses being shunned so that they can be imported into a router for blocking by the router. The new features are included in version 5.2 of the IPS 5500 E-Series software.





1U Server - ASA1401i

1 CPU, Intel Quad Core Xeon 5310, 1.6GHz 8MB 1GB (2X512MB) 667MHz FBDIMM Installed, 1X 80GB SATA II 7200 RPM Installed, Max - 4TB. 1X 4 Port SATA II RAID Controller Installed. 1U rackmount Chassis, 560Watt PS. 4 Drive bay, Rails Included. Price Starting at: \$1265/-



2U Server - ASA2121i

1 CPU, Intel Quad Core Xeon 5310, 1.6GHz 8MB 1GB (2X512MB) 667MHz FBDIMM Installed, 6TB (12X 500GB) SATA II Installed, Max - 12TB. 1X 12 Port SATA II RAID Controller Installed. 2U Rackmount Chassis, 500Watt Redundant PS. 12 Drive bay, Rails Included. Price Starting at: \$4275/-



3U Server - ASA3161i

1 CPU, Intel Quad Core Xeon 5310, 1.6GHz 8MB 1GB (2X512MB) 667MHz FBDIMM Installed, 8TB (16X 500GB) SATA II Installed, Max - 16TB. 1X 16 Port SATA II RAID Controller Installed. 3U Rackmount Chassis, 800Watt Redundant PS. 16 Drive bay, Rails Included. Price Starting at: \$4995/-



5U Server - ASA5241i

1 CPU, Intel Quad Core Xeon 5310, 1.6GHz 8MB 1GB (2X512MB) 667MHz FBDIMM Installed, 12TB (24X 500GB) SATA II Installed, Max - 24TB. 1X 24 Port SATA II RAID Controller Installed. 5U Rackmount Chassis, 930Watt Redundant PS. 24 Drive bay, Rails Included. Price Starting at: \$7345/-



8U Server - ASA8421i

1 CPU, Intel Quad Core Xeon 5310, 1.6GHz 8MB 1GB (2X512MB) 667MHz FBDIMM Installed, 2X 80GB SATA II 7200 RPM OS drives Installed 20TB (40X 500GB) SATA II Installed, Max - 40TB. 2X 12 Port & 1X 16 Port RAID Controller Installed. 8U Rackmount Chassis, 1300Watt Redundant PS. 42 Drive bay, Rails Included. Price Starting at: \$12735/-



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PHYSICAL INFRASTRUCTURE

NOVEMBER 21, 2008

Data Center Cooling Solution

Simplex Isolation Systems AirBlock

Data centers must be kept cool to achieve maximum operating efficiency and ensure against disastrous malfunction, computer crashes, and loss of data. Unwanted mixing of warm air and cold air is one of the key factors contributing to energy waste.

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- Save energy on both air conditioning and fan systems-15% and 67%, respectively, according to a study by the Lawrence Berkeley National Laboratory.
- The AirBlock product line includes transparent curtains, strip doors, panels, and patented hardware, letting you create a solution specific to your needs.
- Specially formulated vinyls are low-outgassing and antistatic and meet ASTM and NFPA fire retardancy requirements.
- Hardware is also designed so curtains fall away in the case of fire, allowing fire sprinklers full operating range.

Simplex also manufactures hardwall systems with rigid, transparent panels, offering even more containment and greater ability to direct cool air. All Simplex products and systems are designed to meet ASTM and NFPA fire retardancy requirements.



Simplex Isolation Systems AirBlock curtains and strip doors separate cold and warm air aisles, maximizing airflow.

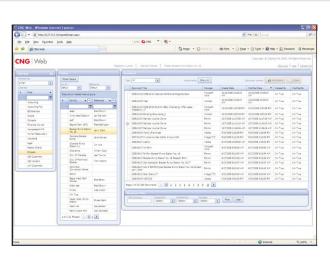
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CLIENTS

NOVEMBER 21, 2008



Cabinet NG's CNG-WEB provides instant and secure access to clients files.

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Access Essential Business Documents

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Cabinet NG's CNG-WEB lets users easily access essential business documents anywhere, anytime using a standard Web browser. This extends the security of CNG-SAFE, Cabinet NG's Shared Access Filing Environment, to let users safely access and search cabinets and folders and view and print documents from virtually any location.

CNG-WEB is an easy-to-use and economical online extension of a small enterprise's document management system. The system automatically enforces security and controls access rights for all users. Files and folders are only accessible by authorized users.

CNG-SAFE's automated document management platform gives businesses all they need for electronic document management in a single package—advanced data protection, state-of-the-art user interface, and the ability to integrate with most third-party applications.

Small enterprises can replace paper and boost accessibility and insight with automated electronic workflows that streamline internal processes, making filing, locating, and sharing documents simple, seamless, and secure.

CNG's user-friendly document management solutions streamline user tasks, delivering gains in office productivity and bottom-line savings. By creating a secure electronic filing environment, CNG's products move manual paper-based procedures into efficient automated workflow processes. CNG integrates document management with popular business applications, creating a central repository of business information that powers more effective business processes.

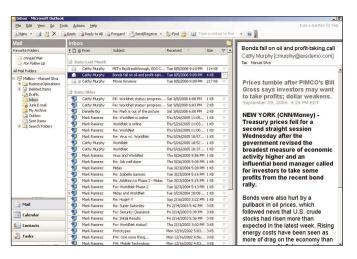


Messaging & Telephony

NOVEMBER 21, 2008

SECURITY

NOVEMBER 21, 2008



AXS-One Dynamic Data Migrator is designed to make email, calendar, and email contact migration more efficient.

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www.axsone.com

Email & Data Migration Get A Shot In The Arm

AXS-One Dynamic Data Migrator

Data migration from one email platform to another can be an unwieldy process, requiring a great deal of planning and preparation, not to mention an abundance of resources. For example, different platforms allow different inbox sizes, creating a potential nightmare for employees who want to retain all their old emails after conversion and migration is complete.

AXS-One's Dynamic Data Migrator application offers a policy-based method of migration designed to solve this problem. Dynamic Data Migrator lets users retain their recent emails after migration, but it also creates a way for people to retrieve older emails instantly without requiring administrators to keep them all on local servers.

This helps relieve pressure on IT departments to create and maintain additional storage after

the migration. Emails that are more than two years old are available to users via a Webbased portal. Overall, Dynamic Data Migrator helps users maintain access to information necessary for doing business.

AXS-One has added new features to Dynamic Data Migrator: the company partnered with CASAHL and Unify to offer a bestof-breed approach to migrating calendars, contacts, and applications in addition to email. The partnership is also designed to provide effective co-existence with Lotus environments. The new enhancements will be available in Q1 2009.



Acunetix Web Vulnerability Scanner v6.0 performs automated scans and displays vulnerabilities found.

Small Business edition starts at \$1,445; free version available (888) 593-5285

www.acunetix.com

Is Your Web Site Hackable?

Acunetix Web Vulnerability Scanner

Web site security is possibly today's most overlooked aspect of securing the enterprise and should be a priority in any organization. Hackers are increasingly concentrating their efforts on Web-based applications, as insecure Web applications provide easy access to back-end corporate databases and also allow hackers to perform illegal activities using the attacked site.

Acunetix Web Vulnerability Scanner automatically checks Web applications for known Web vulnerabilities, including SQL injection, XSS (cross-site scripting), and others. Concise reports identify where Web applications need to be fixed, enabling organizations to protect themselves from impending hacker attacks.

Acunetix has a sophisticated vulnerability detection engine that comes with the pioneering AcuSensor Technology. This is a new security technology that allows developers to identify more vulnerabilities than with a traditional Web Application Scanner, while generating fewer false positives. In addition, it indicates exactly where the vulnerability is within the code and reports debug information. It also locates CRLF injection, code execution, directory traversal, file inclusion, and authentication vulnerabilities.

Acunetix Web Vulnerability Scanner is available in three versions: A Small Business version for one nominated Web site; an Enterprise version to allow for scanning of an unlimited number of Web sites; and a Consultant version, which allows users to perform penetration tests for third parties.



STORAGE NOVEMBER 21, 2008

Enhanced Backup Options For SMEs

Yosemite Backup 8.7

No company doubts the importance of backing up data. It's a crucial aspect of ensuring that a company's data is kept safe. Yosemite Technologies' Yosemite Backup application has been offering a backup solution for companies since the early 1990s.

Yosemite Backup is designed to be simple to purchase and upgrade and supports a range of platforms, including the latest Windows OSes, NetWare, and Linux. Another mainstay feature is the ability for companies to purchase a single backup server to

facilitate their backup needs instead of needing to acquire several.

The latest version of the application, Yosemite Backup 8.7, includes support for Windows Hyper-V and VMware ESX. It also supports Windows PE 2.1 for Vista and Windows Server 2008 disaster

Yosemite Backup 8.7 is designed to enable current customers to seamlessly update their environments while allowing new customers to easily add the application. Users can implement push technology to update their Master Backup Server while automatically having updates installed on all deployed backup clients. Also included is support for SAN and shared devices, as well as Windows services, including Microsoft DFS, Active Directory Lightweight Directory Services, SharePoint 3.0 SP1, and Exchange 2007 SP1.

The Yosemite Backup software development kit version 1.0, which provides access to the API on which Yosemite Backup is based, is available on approval. Yosemite Technologies Backup 8.7 allows companies to purchase a single backup server to facilitate all their backup needs.

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Linux, and NetWare with Yosemite Care: \$2,499

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STORAGE NOVEMBER 7, 2008

CMS Products' Encrypted Hard Drives Provide New Levels Of Data Integrity

CMS Products ABS-Secure Notebook Backup Solution

The ABS-Secure is the latest in the CMS Products line of external USB 2.0encrypted disk solutions, with capacities starting at 80GB. The unit utilizes CMS Products' CE-Secure Full Disk Encryption software for complete management of the encryption environment. Weighing only seven ounces, the ABS-Secure is bus-powered for transportability and is ultrarugged with the inclusion of the CMS DataGuard shock-absorbing wrapper.

The ABS-Secure is ready to use right out of the box. As the entire disk is protected with AES 256-bit encryption, users can be confident that all data on the ABS-Secure is safe and can be accessed only by its rightful owner.

The ABS-Secure includes CMS Products' BounceBack Express Version 8.0 backup and restore software. Recently released, Express 8.0 is the successor to the earlier award-winning BounceBack software. Sporting a new, straightforward, and intuitive interface, Express 8.0 is the perfect complement for implementing data backup to the encrypted ABS-Secure.

- AES 256-bit encryption/decryption
- Full-disk encryption by CE-Secure
- Pre-encrypted for easy operation
- Transportable from system to system
- Bus-powered, USB 2.0 interface
- · Shock protected
- · Three-year warranty
- Includes BounceBack Express backup and restore software
- Includes copy2go Xpress multimedia

CMS Products ABS-Secure Notebook Backup Solution provides backup security with removable disk drives available in four capacities ranging from 80 to 320GB.

Starts at \$193

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www.cmsproducts.com





Who Bought Whom?

Economic Turmoil & Typical Market Shifts Made 2008 A Busy Year For Acquisitions

by Elizabeth Millard

In the enterprise world, technology companies and acquisition plays have always seemed to go well together, as small startups get gobbled up by innovation-hungry larger companies and industry consolidation shifts mix several once-competing vendors under the same roof.

But 2008 seems especially notable, particularly as economic turbulence at year's end made more companies ripe for being scooped up. Here are a couple of this year's more notable deals.

Oracle: BEA Systems

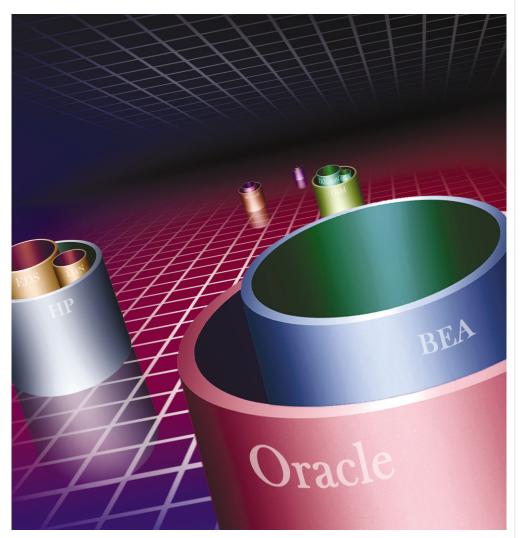
One of the biggest buys near the beginning of 2008 was the \$8.5 billion acquisition

potential to cement leadership in middleware over IBM, Microsoft, and SAP, according to Wang: "These custom development shops represent the best and brightest user base—and the most lucrative."

BEA was far from Oracle's only acquisition during the year, however. The company is notoriously acquisition-minded, and other companies it purchased this year include ClearApp, Captovation, Skywire Software, Tacit Software, Primavera, and Haley.

HP: EDS & LeftHand Networks

Another top deal for the year came in mid-May, when HP (www.hp.com) noted that it would snap up EDS (Electronic Data



of BEA Systems by Oracle (www.oracle .com), showing that Oracle will be moving full speed ahead into more middle-ware plays.

Although the deal was only announced in January and completed in April, Oracle has already unveiled plans for products that will result from the union. So far, there will be an application server, SOAs, development tools, and BPM (business process management) offerings.

Forrester Research analyst Ray Wang notes that BEA was attractive because it brought high-end custom development clients into the mix. With those strong IT shops in several sectors, Oracle has the

Systems), a top computer consulting firm, for \$13.9 billion. The move puts HP into more direct competition with IBM in terms of providing IT services.

For SMEs that currently use IBM's consulting, hardware, and services, the HP deal could create some competition that might be compelling, notes Roger Kay, principal analyst with Endpoint Technologies (www.ndpta.com). "HP will be much more competitive, since this will significantly increase the amount of services personnel," he says.

HP is already seeing profit growth from the deal, according to a recent quarterly sales report, and is continuing to expand

The Right Climate For Acquisitions

The acquisition pace in 2008 was an extension of a lively 2007. In just the first two months of '08, there were at least 35 mergers and acquisitions for venture capital-based technology companies. And the deals just kept coming from there.

One of the major reasons for so much activity is a shift in corporate tax law under the Bush administration, believes Charles King, president and principal analyst at Pund-IT. "Those shifts made life profitable for many corporations, and the ones doing well found themselves sitting on money, so they wanted to spend it."

However, whether acquisitions will stay brisk as the economy continues to soften and credit stays limited remains to be seen. "Mergers tend to change according to who's in the White House, so that may have led many companies to think they had to close on deals before the new year."

the services provided by its consulting arm. Currently, thanks to the deal, HP is able to offer insight in a number of different areas, including data center operations, networking, security, and application development.

To boost its storage offerings, HP also bought LeftHand Networks in October, a firm that once garnered significant venture capital funding in order to expand its product offerings. The move will give HP more expertise in storage virtualization, as well as iSCSI SAN products.

IBM: Diligent & FilesX

In terms of Big Blue's moves, one intriguing deal was its acquisition of deduplication software maker Diligent for an undisclosed amount. The buy came just after another storage-related purchase of FilesX, which specializes in continuous data protection.

IBM (www.ibm.com) noted that FilesX's block-based approach will be used in its Tivoli products, which are geared toward SME customers. Diligent will also be targeted for enterprise use and could come into competition with Sun Microsystems' plans to add deduplication capabilities to its tape systems.

According to Andy Monshaw, general manager at IBM System Storage, Diligent's data deduplication software is a critical technology that will be used in the company's storage products to streamline infrastructure by eliminating redundant data. "This can result in dramatic improvements in data center efficiency," Monshaw notes.

FilesX is being touted for its ability to add capability to remote offices because it can offer continuous data protection for applications and servers and provide data recovery.

Microsoft: DATAllegro

Much like Oracle, software giant Microsoft is fond of acquisitions, and although it didn't get its plum prize of Yahoo! this year, the company did beef up several parts of its operations with buys in security software, business intelligence products, enterprise search tools, and mobile Internet applications.

One that will be of interest to SMEs is DATAllegro, a provider of data warehouse appliances. According to Ted Kummert, corporate vice president of the data and storage platform division at Microsoft, DATAllegro will take Microsoft's data platform to a higher scale of data warehousing. He notes, "DATAllegro is a tremendously innovative company that has started to redefine the data warehouse market."

The company's technology is designed for complex workloads, and it's one of the few warehouse appliances built on a non-proprietary hardware platform. It's not surprising that Microsoft would show such an interest, considering that this feature makes it well-suited for integration with Microsoft's SQL Server.

In general, it seems that there isn't much of a slowdown in acquisitions going into 2009, despite less-than-ideal economic conditions. However, if credit remains tight, it could be large companies such as IBM, Oracle, Microsoft, and HP that will continue to be the most prominent purchasers in the marketplace. And even if the market keeps getting more turbulent, one thing will always be true: A good deal is hard to pass up.

Global Underground Economy Prospering, Symantec Reports

Cybercriminals operating in an underground global marketplace of stolen goods and fraud-related services are cleaning up, according to a recent "Report On The Underground Economy" from Symantec's STAR (Security Technology and Response) organization. Based on advertised prices Symantec witnessed primarily on IRC server channels and Web-based forums, as well as funds

that advertisers would collect if they liquidated inventories, STAR valued the underground economy's potential worth at more than \$276 million.



News

Where small and midsized

enterprises are concerned, databases storing customer names, addresses, buying histories, and payment details are particularly valuable targets because of a demand to sell or trade such data underground, says Marc Fossi, executive editor of the STAR report. "Frequently, small businesses have fewer staff juggling multiple responsibilities compared to larger enterprises," he says. "This can be a challenge when it comes to securing customer and employee data and monitoring for unauthorized access to this information. Attackers may be aware of this and specifically target small and medium enterprises."

Symantec also studied software piracy conducted over one public-domain P2P protocol from July to September, finding desktop PC games the most pirated software at 49%, followed by utility (16%) and multimedia apps (11%). Symantec estimates the U.S. retail value of all pirated software over the single P2P protocol for the reporting period at \$83.4 million but cites a 2007 estimate of nearly \$40 billion as being more reflective of the annual global cost pirated software has on businesses. Category-wise, pirated multimedia software accounted for about \$53 million of the \$83.4 million total, with business productivity apps totaling about \$8.67 million.

Symantec found that the most popular advertised stolen good or fraud-related service was credit card data, with card numbers listing for between 10 cents and \$25 per card. The average card's limit was \$4,000, giving all advertised credit cards a potential worth of about \$5.3 billion. The numerous methods of acquiring and using credit card data, as well as the ease of distributing cards in bulk online, account for the popularity of credit card ads, Symantec states. Financial accounts (including bank account credentials, magnetic strip skimming devices, and online payment services, currency accounts, and stock trading accounts) were the second most advertised category.

Symantec observed more than 69,000 distinct active advertisers and nearly 44.3 million messages in underground forums during its research. Collectively, the 10 most active advertisers held a potential value of about \$16.3 million in credit card information and about \$2 million in bank account data. The leading advertiser, identified as Maggie, had a potential value of \$6.4 million in goods and services. Geographically, the most underground servers originated from North America (46%), followed by Europe/The Middle East/Africa (38%), Asia-Pacific/Japan (12%), and Latin America (5%).

by Blaine Flamig

The Year In IT

Continued from Page 1

She continues, "As more people used these programs, and as they demanded to increasingly use them in the office and on the network, IT simply had to pay attention."

Ken Anderson, executive strategist with Burton Group, agrees, saying these tools matured this year. "Up until now, [social networking] was seen as just a toy for kids. But now, executives are asking if there is a business need to use it," he says. "They're actively looking for ways to implement it instead of ignoring it as they've often done in the past. They see it as a means of driving business and becoming better communicators."

On the Apple front, Anderson says the company's growing influence in 2008 holds significant lessons for IT. The iPhone wasn't just one of the coolest devices of the year; it's an influential platform that is forcing a complete rethink

by enterprise toward mobility and, more importantly, is rewriting how applications are developed and distributed to a mobile audience.

IT's Favorite Color: Green

If 2007 was the year of the green IT movement, Anderson says 2008 was marked by the shift toward green companies. We're seeing a sea change in green thinking not just because it's the right thing to do, but because there's a bottom-line benefit to doing so.

"We can sit around a room all day and say we want to do the right thing for the planet, like feed the hungry and house the homeless," says Anderson. "But when you ask people to raise their hands and say how much they'll contribute, it's another story.

"But if I could make money off of doing the right thing, it'll take off. We'll see a greening of IT when all three things—economics, doing the right thing for others, and doing the right thing for the planet—align," he adds. "Part of the green movement is not just to help us, but for us to help ourselves."

World Gone Virtual

IT's rush toward virtualization also accelerated in 2008. Zeus Kerravala, senior vice president of enterprise and consumer research for Yankee Group, says the tech-

better, we're seeing it at all levels of technology: operating system, storage, processor, and even the desktop."

In Like A Lion, Out Like A Lamb

Jack Gold, president and principal analyst of J.Gold Associates, says 2008 was a year of highs and lows for IT.

"The year started with high hopes—and reasonably robust budgets—for corporate IT but certainly ended up on a sour note, with the next couple of years very cloudy

"From my perspective, 2008 will be known as the year of increased focus on business resiliency and risk management."

-Gartner's Roberta J. Witty

nology moved from the margins to the mainstream.

"We'll look back at 2008 as the tipping point for virtualization," says Kerravala. "Historically, it had been deployed on hardware that wasn't really optimized for virtualization, so it was always a bit of an afterthought. It worked well, but things could have been more efficient.

"Now, so much infrastructure is built with virtualization in mind," he adds. "The rest of the industry is now making hardware and software that makes the most out of virtualized environments."

Burton Group's Anderson says virtualization's timing is impeccable. "Just as the economy has gone south, we have a way to save money and drive ROI," he says. "Virtualization is a quick win that allows you to become more flexible, fast. Even

Another important step an SME should

take is to create a security policy. Instruct

employees to avoid clicking links in

emails. Have them type the link into the

Web browser manually instead. After

establishing policies, enforce them with

to say the least," he says. "Many new technologies will be affected by the spending slowdown, including software as a service (SaaS), the move to open-source, and virtualization, all of which started the year with great promise."

What runs on corporate desktops and inside data centers will also be influenced by the ongoing battles in the war between the chipmakers. "Intel and AMD were big news-makers for totally opposite reasons—Intel for its dramatic 'recreation' of its line of chips and AMD for its lack of ability to defend against Intel's onslaught," says Gold.

When all is said and done, one thing all the analysts agree on is that, as eventful as 2008 was, 2009 is already shaping up to be a challenging, opportunity-filled year for IT.

Most Unusual Trend: Less Automation

Ken Anderson, executive strategist for Burton Group, says 2008 may become known as the year when humans started to take control away from machines.

"Watching what happened in the financial markets this year, it's clear that people relied on systems to make decisions, systems that were then used to predict future models and make going-forward business decisions," he says. "It turns out maybe we shouldn't have relied so much on the systems.

We leaned too heavily on the machinery and not enough on our own intellectual capability."

Now, Anderson foresees a shift away from such automation. "We've seen many companies that had in past years automated many of their business processes now breaking them down and reintroducing humans back into their operations," he adds. "We've actually automated failure. At what point do we trust the machines to run the enterprise?"

Prepare Your Enterprise For Social Engineering Attacks

Continued from Page 1

data to piece together the information they need for a face-to-face attack," says Jeff Debrosse, research director, Eset (www.eset.com).

To gather this information, social engineers are known to start conversations with waiting passengers seated in the terminal areas of airports. Anyone may end up sitting next to employees, asking what they do and where they work. "People usually feel OK about having that conversation," says Debrosse. During the conversation, an employee may reveal his title and department or even personal information like his pet's name, which is one of the most-frequently used passwords, Debrosse notes.

But with only a little information, an attacker will call the company asking for them. Evans notes that a frequent script of these corporate spies is to say that the IT director, whose name they got from the company's online directory, has asked them to fix the computer glitch that causes their computer to keep running so slowly. Everyone has had that issue. Most

Key Points

- To avoid phishing scams, remind employees not to click links that arrive by email.
- In-person attacks can compromise company data, so employees should not share potentially sensitive information with unconfirmed parties.
- Everyone with access to sensitive data should read and follow security policies.

employees are so glad to have it resolved that they will give the social engineer full access to their workstation the moment they show up.

"The attacker inserts a USB thumb drive with software designed to make a secure connection back to their computer," says Prince. With that, they will steal the com-

"Attackers use small amounts of unrelated data to piece together the information they

Stop Attacks

need for a face-to-face attack."

-Eset's Jeff Debrosse

pany data without ever having to set foot on the property again.

technology. "Use Web content filtering to prevent employees from going to illegiti-

Trained Employees To The Rescue

"The best solution is employee education," says Prince. Train employees about the types of social engineering that occur, why they happen and how to respond. Drill employees about who should be in certain areas and to report activities that are against company policy. "Assign a champion or committee to disseminate new and ongoing social engineering threats to employees," says Debrosse.

Employee education does not have to be difficult or time-consuming. "Email security policy updates to employees. Offer video training over the company network. Require them to view it and pass an online quiz," Evans says. If the enterprise keeps the instruction exciting, using real-world examples and dramatizations, employees will learn. Randomize the quiz questions automatically for each run of the test to ensure learning.

technology. "Use Web content filtering to prevent employees from going to illegitimate sites, such as links in phishing emails," says Prince. You should also filter out the spam that carries phishing attacks using a spam filter.

Use penetration testing to see if and how a social engineering attack would get

through enterprise defenses and then plug any holes. "Social engineers will call in to a department and ask for an employee by name, saying, this is Mark from IT. On your computer, click Start/Run, type in Cmd, type in ipconfig/all and read everything off your screen to me," says Evans. With that, the employee will have given the attacker information about IP addresses connected to that computer and other information useful for getting to data and stealing it. A good penetration test would reveal these vulnerabilities. Good training would inform employees that IT should never call asking for this information.

Inform employees about acceptable and unacceptable information sharing. Have a known employee escort nonemployees where they need to go. Use security badges with photos for secure entry. Have employees minimize their screens or put their computers in sleep mode when talking to strangers onsite.

Stay Informed

As threats continue to increase, the key to preventing social engineering attacks is knowledge. Know where the vulnerabilities are and secure them with training, testing, policies, and technology. Stay abreast of new developments and new attacks and keep in step with advances in the social engineering space.

Phone-Based Attacks

Phone-based social engineering attacks are more common and may be more effective than in-person attacks, depending on what the at-tacker is trying to accomplish, explains Kevin Prince, chief architect, Perimeter eSecurity (www.perimeterusa.com).

In a recent example, during the presidential campaign in Broward County, Florida, explains Jeff Debrosse, research director,

Eset (www.eset.com), social engineers used fake robo-calls—those automated recorded campaign calls—portending to be from Brenda Snipes, Broward Country supervisor of elections.

The calls targeted specific people, telling them they could vote for president by phone on election Tuesday instead of going to the polls.

2008's Financial Woes

What Does The Economic Crisis Mean To IT Organizations & Manufacturers?

by Christian Perry

THE LARGEST ECONOMIC CRISIS in two generations has enterprises of all sizes scrambling to reassess their priorities across all departments. IT managers face a particularly tough challenge, as everincreasing technology costs must be somehow shoehorned into dwindling budgets.

"IT professionals know they are likely to be asked to make capital spending cuts and prioritize planned projects as organizations plan budgets for 2009," says Lisa Dreher, vice president of business development for Logicalis (www.us.logicalis.com). "Proactive IT professionals already have plans in place as to how they will address these requirements. Many of them are already consolidating server, storage, and application requirements, centralizing the management of maintenance contracts, and standardizing hardware infrastructure—all aimed at simplifying IT infrastructure and therefore the related costs for power, cooling, maintenance, and more."

However, she adds, those caught flatfooted without a plan will have far less influence over the direction of the investment of limited capital IT investments. Data center equipment manufacturers are already feeling the crunch and will feel it more dramatically if the economic downturn continues into the first quarter of 2009 and beyond, Dreher says.

If It Ain't Broke, Don't Upgrade It

For many businesses, the economy has transformed IT buying strategies from a "do-it-now" approach to a "wait-and-see" tactic. Joshua Aaron, president of Business Technology Partners (www.btp.net), says that large technology infrastructure projects and new data center builds are slowing down or being put on hold. Dreher agrees, explaining that some Logicalis customers have received budget projections as much as 50% less than what they had in 2008.

As budgets shrink, IT organizations are looking to stretch the useful lifetimes of the equipment already in use. For example, Aaron says that there is more sharing of systems, storage, scanners, printers, and other network resources, which in turn could have a negative impact on data and networking hardware manufacturers and resellers, as well as telephone system manufacturers.

"We have already seen a downturn in enterprise projects to upgrade their phone systems. Some projects have been put on hold, and basically, if the phones are working, there is little motivation to upgrade at this time," Aaron says. CiRBA (www.cirba.com) co-founder and CTO Andrew

Hillier draws a parallel between consumers and data center managers, explaining that while leaky faucets are still fixed and car tires are still changed in a rough economy, flat-screen TVs are likely to stay on store shelves. The data center, he says, functions in the same way—if you can get by without it, then you probably will.

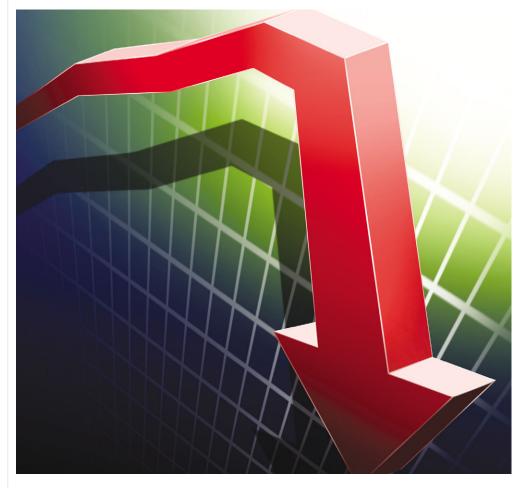
Strategy Shift

As with any economic trouble, opportunities have emerged for IT managers to examine technologies that can help their organizations survive during the crunch. According to Dreher, there are three primary types of investments made during the

application consolidation, leveraging existing investments in applications by using contract staffing, and email archiving and management that lower storage requirements now and for the future.

"Innovation technology initiatives are programs that will position an organization positively for when the economy gets back on track and may even allow them to take advantage of early gains," she says. These include enterprise portals, unified communications, videoconferencing, SaaS and cloud computing, and business intelligence.

"[IT organizations] will need to learn to operate as a more integrated part of the business rather than a stove-piped and often-misunderstood segment of the organization," says Shane Aubel, partner and co-founder of Accent Global System Architects (www.accentglobal-llc.com).



downturn (listed in order of priority): need-to-have investments, efficiency investments, and innovation investments. While some organizations inevitably focus on the first type, others may be able to invest across all three areas.

In the need-to-have investment category, she sees server consolidation/virtualization with low-level investment, migration toward standardized infrastructure environment in any must-make purchases, centralization of maintenance contract management, as-need-ed contract staffing, and a move toward predictable monthly outsourced IT services. For efficiency investments, Dreher sees server and storage consolidation/virtualization,

"They will need to learn to compete for dollars with other infrastructure spending on a cost-benefit basis—i.e., new manufacturing or new IT systems. This means IT will need to clearly define and quantify their business value in order to compete for shrinking budget dollars."

Next Year's Forecast

Although BTP's Aaron says that 2009 will be a rough year for everybody, he notes that IT support is critical to the way an office functions and compares it to a basic necessity such as electricity or water. There will always be room for backup solutions and business continuity or disaster recovery plans, there will always be a need for general computer maintenance and upkeep, and employees will always deal with email issues and loss of Internet connectivity.

"There are always organizations that are doing extremely well, since some benefit from downturns and some become stronger as their competitors struggle or cease to exist—look at some of the energy companies, pharmaceutical and health care firms, the strong financial organizations, companies providing diversion/entertainment products and services, and the super discount stores, to name just a few," Logicalis' Dreher says. "Second, there are always smart organizations that, despite feeling some impact of a downturn, see opportunities for smart investments that will position them considerably ahead of their competitors as things inevitably turn for the positive." $\ensuremath{\mathbb{P}}$

IT Buyers Take Wait & See Approach

News

Research firm IDC released its Buyer Intent metric for December, which reports market demand for IT products and services in the coming year. And the results have many in the industry breathing a tiny sigh of relief. According to the metric, buyer expectations rose slightly in December to 942 compared to November's 936 rating, which marked a significant drop from October's metric. The report forecasts a 5% drop in U.S. IT spending growth during the next 12 months but a 0.9% percent overall rise in IT spending for 2009. IDC speculates that IT buyers are taking a "wait and see" approach to the bailouts and their impact on the global economy.

Blocking Ads Can Decrease Energy Consumption

According to a recent study, ad blocking can marginally impact your energy consumption. "Browser Power Consumption," a paper by SecTheory CEO Robert Hansen, reports that users can slightly reduce power consumption by preventing the client-side scripting that typically runs in a browser that is displaying ads. There are benefits to ad blocking other than power savings, as some researchers claim that malicious code is commonly found in advertising URLs.

Trend Micro Studies Origins Of Infections

Researchers from antivirus software producer Trend Micro say the majority of this year's malware attacks were caused by users navigating to a malicious site and then accepting a download. Trend Micro found that only 5% of computer infections were caused by an exploited software program. The company found that the top 100 malicious programs infected more than 50% of victims by getting them to accept an Internet download. Another 12% were infected when opening an email attachment. Trend Micro analysts say that social engineering is the real culprit when it comes to infecting computers, rather than security vulnerabilities in software or browsers.

Dell, EMC Extend Storage Partnership

Dell and EMC say they'll extend their worldwide storage partnership until 2013. The current contract doesn't expire until 2011. Within the new agreement, Dell will begin selling EMC's Celerra NX4 storage systems. Speculation of a break-up arose when Dell paid



\$1.4 billion for the acquisition of EqualLogic. But Steve Leonard, an EMC senior vice president, says the renewed agreement will re-move any doubt about the companies' relationship. Dell and EMC joined forces in 2001, and both companies have benefited financially from the deal. When joined together, EMC offers Dell a way to offer midrange and high-end storage products, while Dell offers EMC a way to join the growing market for Win-dows-based servers.

IT Spending To Slow In 2009, Says Forrester Research

According to a report from Forrester Research, IT spending will slow to 1.6% in 2009, down from a 4.1% growth in 2008. The silver lining is that Forrester predicts that not only will the hit not be as bad as it was in 2001-2002, but that the recession will last only through mid-2009. Sales of network equipment, software, and consulting services are slumping, and computer equipment purchases are also expected to drop, but overall sales are expected to bounce back in the second half of 2009 and throughout 2010.

When Is The Rebound Coming?

Survival is the name of the game for many companies in this bitter economy, but forward-thinking IT managers are also looking for signs of a potential recovery. Some experts warn not to expect an economic rebound before 2010, potentially leaving 2009 looking awfully similar to the end of 2008. However, Lisa Dreher, vice president of business development for Logicalis (www.us.logicalis.com), offers an opinion she admits runs contrary to most current opinions about the marketplace.

"I think we are already turning the corner," she says. "It's funny, but we never really take in where we are until we have the opportunity to look back. Now that we have admitted the problem in a

general sense, everyone can begin really addressing it. . . . There are a lot of good signs beneath all of the negative publicity right now."

For example, Dreher points to organizations that are viewing the current economy as an opportunity, and they're making smart investments as a result. Further, there are companies that are profitable and continue to experience growth despite the economy—or because of it, in some cases. "The smartest thing any organization can do in my view is get beyond thinking in survival mode and think about what is next. This is an exciting time with so many possibilities. Those that seize the opportunities that are presented will prosper," she says.

News

Sun Investor Names Board Members

Southeastern Asset Management, a 22% shareholder in Sun Microsystems, has been given the green light to nominate two directors to sit on Sun's board. The appointments, however, are still subject to the board's approval. Southeastern Asset Management is Sun's largest stakeholder. In October, the company announced that it would move from being a passive investor to an active investor in an effort to help turn around the fortunes of Sun's slumping stock value. The moves have led to speculation that the sale of Sun was nigh, but Southeastern reinforced its support of Sun's leadership.

IBM Asks For Info In Papermaster Case

IBM is seeking background information from a number of senior officials at Apple as it works to uncover more details about forcing Mark Papermaster to quit working at Apple. U.S. Court Judge Kenneth Karas denied IBM's request to delay the trial of the 26-year IBM veteran. Papermaster appealed Karas' ruling to end his employment with Apple. He was to lead Apple's hardware engineering teams for the iPod and iPhone, but IBM objected to this, stating that his hiring was intended to increase Apple's presence in the handheld devices market.

White House Asked To Boost Cybersecurity

The CSIS (Center For Strategic And International Studies) commission says President-elect Barack Obama should spearhead a new White House office titled The National Office For



Cyberspace, led by an assistant to the president for cyberspace. Because cybersecurity is one of the primary national security issues, the commission believes the United States should use its intelligence and diplomatic resources to combat cyber threats. This would require a comprehensive plan involving both the DHS National Center for Cybersecurity and the Joint Inter-Agency Cyber Task Force. The CSIS report also suggests the United States reinforce its cybersecurity policies internationally, ratifying the Council of Europe Convention On Cybercrime.

Microsoft Offers Search Data Retention Standard

Microsoft has called for an industry-standard six-month search data retention period. The move is in response to a request by the European Union's Article 29 Working Party, which asked for a common standard when it comes to anonymization of search data. In April, the group suggested a six-month data retention period was appropriate. Google adopted a nine-month period in September, while Yahoo! follows a 13-month search data retention period.

Sprint Settles Early Termination Fee Dispute

In an effort to insulate itself from future consumer litigation, Sprint Nextel has attained court approval from U.S. District Judge Jose Linares for a \$17.5 million nationwide settlement in a class-action suit that arose over its early termination fees. The suit, similar to those brought against other wireless carriers, alleges that early termination fees—fees consumers must pay for cancelling their service before their contracts are up-are too expensive and restrict consumers' flexibility. Carriers, however, believe the charges are necessary to recover costs incurred from offering handset deals. Judge Linares' preliminary ruling may protect Sprint from a similar \$1.2 billion class-action suit; however, the company may still be responsible for a \$73 million case in California.

Biggest IT Issues Of 2008

More Secure, More Virtual, More Power

by Chris A. MacKinnon

WHEN WE LOOK BACK at the biggest IT issues of 2008, we remember a number of hot topics that helped shape the way data centers run. It depends on who you talk to, of course, but according to popular opinion, we've come up with a few of the biggest IT issues of 2008: security, virtualization, and power consumption.

Security

According to Dave Bull, product marketing manager at Secure Computing (www securecomputing.com), there have been several top network security concerns in 2008 that he says have evolved around the need for solutions regarding malware, spam, and even regulatory compliance ini-

attacks, the more complex and difficult the solutions may become, not to mention how often that technology may need to be updated to be effective."

In Bull's opinion, SMEs can consider themselves lucky to have new technologies such as reputation services. He says, "This type of technology can help with numerous security threats, so while I do believe malware and spam will continue to be big issues, there are also new remedies to consider, and many can be used with existing technology."

Virtualization

Augie Gonzalez, director of product marketing at DataCore Software (www .datacore.com), says it was virtually a fluorescent green year, but the glow from server

Guest OS Gue

tiatives, all of which can affect every organization. He says one layer that lies on top of all of these technical issues is time. He comments, "IT professionals are concerned about security issues all the time and still don't spend enough time on them; instead, they rely on technology, so having the latest and greatest engines available is strategic for many organizations."

Due to time constraints and convenience in SMEs, Bull says centralized monitoring and management is also a hot topic this year. He notes, "I've found that whether you purchase several dedicated appliances or just one to handle it all, centralized monitoring and management is unavoidable. Separating out security concerns by topic almost always comes right back together again when it comes to actually trying to maintain solutions, especially in any sort of distributed environment. So since security concerns are increasing in volume and destruction, potentially affecting nearly every organization, it's easy to see how these topics are of grave concern."

Bull says these security concerns will definitely stretch into 2009. He explains, "Time will always be an issue, but regulatory compliance requirements, for example, are just now being understood by organizations, and many struggle to find solutions to meet their needs. Not to mention the fact that there always seems to be some sort of new compliance initiative coming out that is pushed down to small and midsized enterprises. Malware and spam volumes don't seem to do anything but grow, and the more sophisticated and targeted the

consolidation projects in 2008 dimmed with unexpected single points of failure and insidious I/O bottlenecks. He explains, "Many were so eager to squeeze every CPU cycle from each machine that they forgot to factor in storage dependencies. Most notably, critical disk resources remained constrained by their enclosures even as server virtualization released workloads from the [confines] of physical cabinets."

Gonzalez continues, "Yes, we stuffed 10 times more users into those shiny new x86 machines only to find that the old-fashioned spinning disks couldn't keep up. [When the disks wore out], they took 10 times more programs down with them. Or, best case, they crawled along waiting patiently to update another record with the maintenance crews on high alert, though [few] dared to power down their disk subsystems to grease the firmware. Coordinat-

ing a planned disk outage now became 10 times more difficult; getting it wrong meant the screams were 10 times louder."

Can we expect the same next year? "Not a chance," Gonzalez says. He continues, "2009 [will see] an astute bunch of ecofriendly folks that stops to virtualize their disks first. They'll pool it, replicate it, and cache the heck out of it. Storage virtualization software now takes center stage, because it actually makes doing this practical without spending 10 times more to retool with super-fancy arrays."

Power Consumption

Chris Loeffler, global applications manager at Eaton (877/785-4994; www.eaton .com), says one of the biggest power issues that data centers faced in 2008 was running out of power (and cooling). He comments, "We saw an ever-increasing issue with data centers designed five to 10 years ago running out of available power and cooling to the floor. This was compounded by organizations adopting virtualization and further consolidating data centers to gain greater control [of] their assets."

Loeffler says 2008 saw an increasing amount of problems in the power distribution area, where customers tried using old power distribution schemes while adding higher-power-density servers. He notes, "Many times, they had just basic ePDUs (enclosure power distribution units), which led to circuit breakers tripping offline when server loads became heavy, or in some cases, a much worse condition, where full panelboard main breakers tripped offline, causing power outages to several racks at the same time."

According to Calvin Nicholson, director of product marketing at data center power solutions provider Server Technology (800/835-1515; www.servertech.com), the biggest power consumption issues that data centers faced in 2008 include increased power and cooling demands, power availability and rising power costs, and power monitoring and management. He comments, "The increased demands for power and cooling, combined with decreased power availability and increased power costs, have convinced the data center industry that it makes good business sense to go green. Energy costs have escalated enough that annual power costs are expected to exceed server acquisition costs by 2010, according to recent estimates."

Nicholson believes that next year, the focus will be on cost savings, power monitoring and control, and data center efficiency. He concludes, "New PDU features and functions recently introduced focus on the data centers' desire to not only monitor but also to control and manage their facilities to increase efficiency by making better and faster decisions when implementing new equipment or trying to solve a problem. Many of these features include the ability to measure power information per an individual outlet."

Biggest Of The Big Issues

As the global applications manager at Eaton (877/785-4994; www.eaton.com), Chris Loeffler believes that the biggest issue facing companies is the increased pressure to decrease operating costs in these challenging economic times. He notes, "One way we see this unrolling is that more focus will be placed on IT and facilities converging into a unified entity; therefore, they will attack cost containment in a new way. The solution should include more automation in the way IT and facilities interact, so, for example, as IT needs dynamically change for com-

pute, the facilities systems can continually optimize themselves based on the IT demand."

Loeffler says that in this way, customers can lower their energy usage to an optimal point while still maintaining mission SLAs (service-level agreements). But he says rolling in this type of automation will require due diligence on companies that offer automation solutions, and with the right partners, new hardware costs can be quickly recouped with much lower operating costs.

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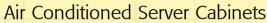
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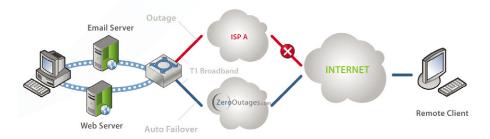
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NETWORKING & VPN NOVEMBER 7, 2008



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With today's fast-paced, always-on business climate, enterprises are looking for increased bandwidth and guaranteed Internet uptime. That's why XRoads Networks, the leading broadband aggregation service provider, created ZeroOutages.

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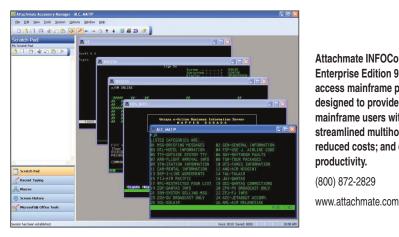
The service is perfect for both data centers and the remote and branch offices that depend on them. If your end users depend on being able to connect to your data center, you need this service.

www.ZeroOutages.com/Processor Use this link to see a special offer.

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NETWORKING & VPN

NOVEMBER 7, 2008



Attachmate INFOConnect Enterprise Edition 9.0 is a host access mainframe package designed to provide Unisys mainframe users with secure, streamlined multihost access; reduced costs; and enhanced productivity.

(800) 872-2829

Extending The Value Of Mainframe Applications

Attachmate INFOConnect Enterprise Edition 9.0

To give companies a host access mainframe package for those using Unisys mainframes, Attachmate has unveiled INFOConnect Enterprise Edition 9.0. This latest version is designed to help companies extend the value of mainframe applications, boost end-user productivity, and reduce costs. It boasts the Microsoft Windows Vista certification and enhanced security features, all designed to deliver secure, productivity-focused multihost emulation.

By improving information flow, enhancing user productivity, and lowering total cost of ownership, INFOConnect is designed to streamline multihost access in a single application, increasing efficiency and providing modernization of existing mainframe applications right out of the box.

INFOConnect Enterprise Edition 9.0 includes FDCC (Federal Desktop Core

Configuration) compliance, FIPS validation, support for IPv4 and IPv6, and DoD PKI standards support.

Vista certification lets IT managers support desktop technology changes while leveraging their preferred platforms. The FIPS validation includes Reflection Secure FTP Client and SSL support to give companies an encrypted, secure FTP solution. IPv6 and IPv4 support enables INFOConnect Enterprise Edition 9.0 to connect to the mainframe on the network even as Internet standards continue to morph. DoD PKI is the highest level of government security, ensuring that companies using INFOConnect Enterprise Edition 9.0 will be safe and secure.



PRODUCT OF THE WEEK

Stay Alert

AlertWerks II's Environmental Monitoring Saves Costs & Protects Your Investments

by Holly Dolezalek

WHEN IT COMES TO conditions in the data center, paranoia is a good thing. No data center manager wants to find out too late that the temperature has soared, or the humidity is off the charts, or someone has gone into the data center and done something they shouldn't. And the increased need for capacity has companies cramming more and more equipment into smaller spaces, but at some point, a data center's capacity for equipment outstrips its capacity for cooling.

At the same time, a historic economic downturn and concern about power consumption have intersected, and many eyes are turning to the data center as a place to



PRODUCT OF THE WEEK

Black Box Network Services AlertWerks II

Description: An environmental monitoring system that uses SNMP-enabled and Webbased technology to monitor, alert, and report on data center conditions such as temperature, humidity, air flow, smoke, and security. Its simplest iteration is the ServSensor Jr., which monitors temperature only, while the ServSensor can support up to eight different sensors and four surveillance cameras.

Interesting Fact: Black Box opened for business in 1973 under the name of Expandor. It changed its name to Black Box in 1982 because its devices to connect clients' primary data communications products were known informally as "little black boxes."

> (888) 225-6921 www.blackbox.com

find some low-hanging fruit to knock down. "Even in these tough times, the need for more power is driving enterprises to renovate their data centers or server rooms or to build new ones," says Darin Stahl, lead analyst at Info-Tech. "Before you have to do that, it makes sense to look at the opportunities for reducing energy consumption."

For both priorities—equipment protection and power monitoring-environmental monitoring systems can be helpful tools. But differences in data center size, configuration, and complexity mean that

simplest iteration of AlertWerks, the Serv-Sensor Junior, lets users connect a sensor to the network and then monitor it over the Internet. Alerts can be sent by email or text message when the data center temperature goes over a set point.

A more advanced version, the Serv-Sensor, can accommodate multiple sensors in a higher-level hub, and the most advanced version, the ServSensor Contact, includes both sensors (for temperature, humidity, smoke, and other conditions) and cameras, along with a hub that interfaces with video. This system is capable of logging all door contacts and placing cameras based on a map of the data center. "It lets you see who's in the room, where they came in, and even logs what time the door opened," Whitney says. It also has the capability for a siren or a silent alarm.

Dry contact sensors allow AlertWerks to detect if the UPS fails, and it also polls for SNMP reads and sends alerts to the user's PDA. "Rather than simply alerting that something in the rack has failed, it gives

A Proactive Approach

So why don't more data centers have this type of monitoring installed? Stahl says that in part, it's due to the hidden nature of power consumption. A high-density server rack can cost as much as \$13,000 to \$28,000 a year to keep appropriately cool. But although a data center has an average of 10 times the power requirement of an equivalent office space, the electrical costs for the data center are not separately metered unless it's in a different location. "IT managers, like anyone else, manage to budget and monitor their expenses, but if they don't see their electrical expense, they don't have to worry about it," Stahl says. "If it were allocated back, as is becoming the norm, [it] would be a top-of-mind line item for a CFO to ask the data center manager what they're doing to turn the lights off."

In that sense, an environmental monitoring system can act as protection against disaster and as a way to be proactive about



managers don't all want to monitor the same things. Some want to know every detail about everything, from humidity to temperature to video tracking of each door, while others only need to keep an eye on the temperature. Meanwhile, still others aren't monitoring anything at all except in the most rudimentary way.

A Reliable Solution

The AlertWerks II system from Black Box Network Services is a series of monitors that data center managers can rely on whether they want to keep track of everything or just one thing. "In IT, the biggest thing is cooling, and if you've got several servers stacked in a cabinet, you need to know right away if the AC goes out and the temperature starts climbing," says Josh Whitney, product manager for Black Box (888/225-6921; www.blackbox.com). The specifics, such as that UPS X in rack Y has failed," Whitney says.

AlertWerks II is the new version of an older system that mostly monitored temperature, a system Whitney admits didn't work very well. "The old system, Alert-Werks I, was not very user-friendly, but with the new version, we've developed our own software, and the interface is much easier to use," he says. The software now detects any sensors automatically and doesn't require any commandline programming.

The range of options in AlertWerks is deliberate, Whitney explains, because in the past, these systems tried to be everything to everyone. "If all someone wants to do is monitor the temperature, they're not going to spend \$3,000 on a system that monitors temperature and 10 other things," he says.

New Boundary Technologies Prism Suite 9.0

bringing costs down. "This kind of data is useful for planning discussions, because it's one thing to talk about how your server is using 20 kilowatts, and another to point out that that means \$5,000," Stahl says. "This could be an overlooked area where you can spend a little in order to save a lot."

Stahl suggests that it makes sense to start small with environmental monitoring but to consider the possibilities for later iterations, as well. With a baseline set of data outlining how much power you're using and where you're using the most of it, you can then use experts to find more efficiencies and add more savings over time. "You can start with thermal monitoring and managing your hot spots better so that your cooling is more efficient, but those are the low-hanging fruit," he says. "When done right and in measured phases, environmental monitoring will continue to fund itself."

NETWORKING & VPN NOVEMBER 7, 2008

Reduce Windows Configuration Complexity

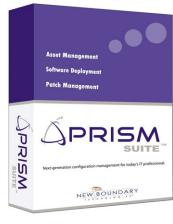


New Boundary Technologies Prism Suite 9.0 offers robust, safe, and seamless Windows system management for any location.

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New Boundary Technologies' Prism Suite 9.0 helps reduce the complications associated with Windows configuration. New Windows configuration management features allow for se-

Every Windows administrator is look-

ing for new ways to make Windows

configuration more manageable and

efficient. All too often, however, the

plify the Windows configuration

headaches.

process only add complexity and

tools and programs designed to sim-

cure, Internet-based administration of mobile workforces and remote locations, resulting in better functionality and performance. In addition, Prism Suite 9.0 has been designed to spread out the deployment of software and configuration responsibilities to enhance performance and conserve bandwidth.

Prism Suite 9.0 also offers a client/server architecture and modular design to automate and simplify processes inside IT departments or via a managed service provider or software as a service models.

Corporate IT departments will benefit from the inclusion of effective, dependable packaging of 64-bit software programs, allowing large, 64-bit software programs to be deployed faster. Prism Suite 9.0 also includes added support for WMI (Windows Management Instrumentation), so Windows administrators can be more accommodating when grouping systems for management tasks.

Do you have a new product that data center/IT managers would be interested in learning about?

Send your press release or related product information to press@processor.com.



CLIENTS



■ Cisco Media Experience Engine 3000

Cisco introduced the first offering from its new media processing portfolio, the Cisco Media Experience Engine 3000, which is a media processing tool that is capable of converting a single source of content to be compatible with any device. The Cisco MXE 3000 also lets users perform post-production work, such as watermarking, voice- and video-editing, text and image overlays, and noise reduction, in real time. As a component of Cisco's media processing portfolio, Cisco MXE 3000 delivers improved video experiences for end users thanks to faster delivery and simplified media sharing over the network.

■ Intermec Device Deployment Kit

Intermec has announced a device deployment kit that supports Microsoft BizTalk RFID Mobile in an effort to make mobile RFID solutions easier for customers and partners to develop, deploy, and manage. The deployment kit is designed to extend the management and event processing experi-

ence to mobile devices, allow for communication between a server and mobile platforms, and enable Microsoft software partners to better build plug-and-play vertical market applications. Intermec's CN3, CK61, and CV30 mobile computers seamlessly integrate with BizTalk RFID. Features include barcode scanning, pull-trigger events, storing and forwarding tag events, and remote configuration and administration of handheld devices via the Microsoft LLRP provider.

■ Microsoft BizTalk Server

Microsoft announced the availability of BizTalk RFID Mobile and the BizTalk RFID Standards Pack. It also announced that the public beta of BizTalk Server 2009 is available for download. BizTalk RFID Mobile extends BizTalk Server RFID to mobile devices using Windows Mobile and Windows CE and has offline processing capabilities, which reduces the cost of ownership. BizTalk Server 2009 supports Windows Server 2008, Microsoft Visual Studio 2008 SP1, Microsoft SQL Server 2008, and the .NET framework 3.5 SP1.

■ Océ VarioLink

Océ has introduced VarioLink 3622/4222/5022 multifunctional MFP devices, which are designed to connect professional output and finishing with flexible scan,



print, and fax capabilities in order to create and distribute documents and information in today's business world. These devices were created to provide a first-copy-out time of 3.2 to 3.6 seconds and print 36 to 50 pages per minute with a powerful 600MHz processor, 1GB system memory, and customizable shortcut keys. The Océ VarioLink 3622/4222/5022 machines also include 5,650-sheet maximum paper capacity and an 80-sheet autoduplex document feeder. Additionally, the front-facing USB port lets users scan to or print from a USB memory device.

■ Parallels Plesk Panel 9.0

Parallels has released Plesk Panel 9.0 comprehensive hosting automation control panel software. The software is designed to enhance features for Virtual, Dedicated, and Shared Hosting providers and SMEs, and it integrates with Parallels Plesk Billing. Plesk Panel 9.0 completely integrates with leading services, such as the APS (Application Packaging Standard) Catalog and Parallels Plesk Billing 6.0 and offers access to hundreds of prepackaged applications. The user interface is designed to be easier and quicker to navigate, with a skin that looks like Windows Vista's.

■ Protech PS5001

Protech's latest POS system is a fanless turnkey terminal with a modular design. It

supports low-power Pentium M and Celeron M chips, including ULV models. The kiosk-friendly PS5001 includes a 15-inch TFT and a built-in thermal printer. It supports Linux, WEPOS, and Windows XP/XP Embedded, as well as a secondary monitor, a VFD, an i-Button, or an MSR.

■ Sun Microsystems MySQL 5.1

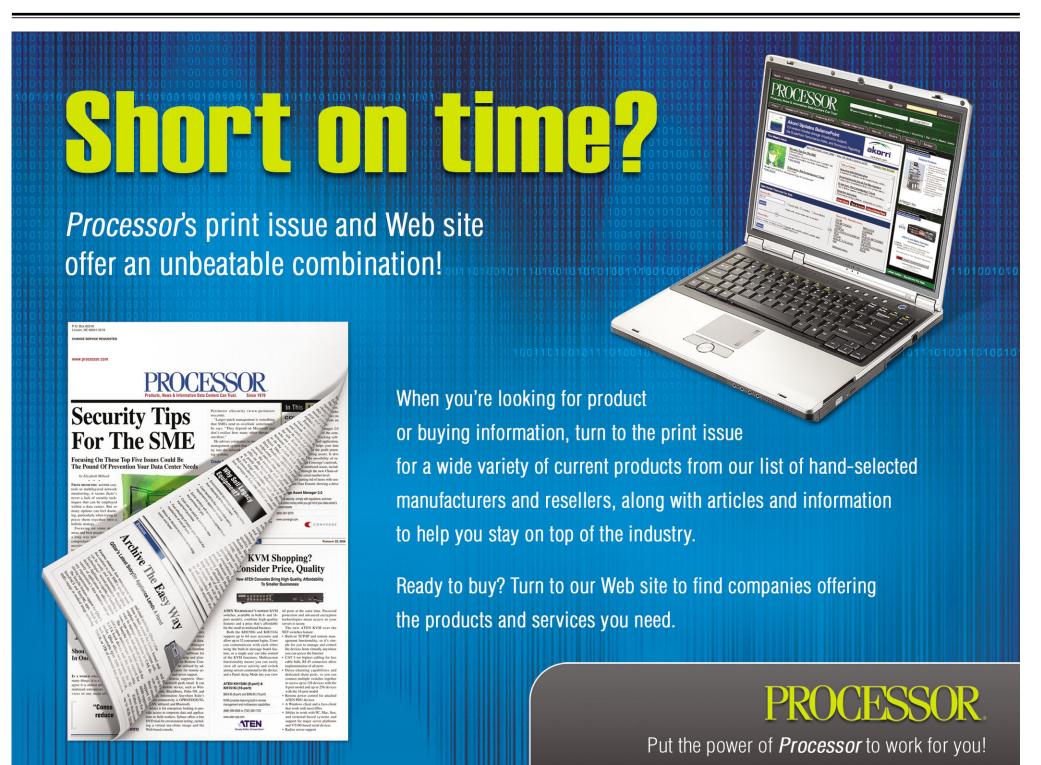
Sun Microsystems launched the latest version of its open-source database, MySQL. Version 5.1 features several updated enterprise-class enhancements, including table and index partitioning, row-based and hybrid replication, Event Scheduler, and MySQL Query Analyzer. MySQL 5.1 is available for Red Hat Enterprise Linux, SUSE Enterprise Linux Server, Microsoft Windows, Solaris 10, Macintosh OS X, Free BSD, HP-UX, IBM AIX, IBM i5/OS, and other Linux distributions. The MySQL 5.1 GA release is available via three models: the MySQL Community Server, MySQL Enterprise Server, and MySQL Embedded Server.

Messaging & Telephony



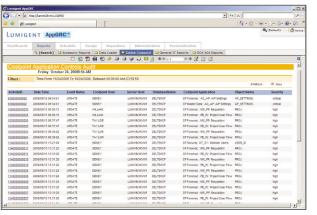
■ 3CX Phone System For Windows 7.0

3CX released version 7.0 of 3CX Phone System for Windows. Version 7.0 includes a new design that improves the *Go to Page 16*



NETWORKING & VPN

NOVEMBER 7, 2008



The Lumigent AppGRC suite helps companies drive down compliance costs while improving governance-driven productivity and profitability.

Prices range from \$42,000 to \$360,000, depending on complexity of monitored application and size of the customer

(866) 586-4436

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Drive Down Costs, Drive Up Productivity & Profitability

Lumigent AppGRC

Meeting GRC (governance, risk, and compliance) requirements for primary business applications is important for companies. Lumigent's AppGRC suite of applications is designed to help companies drive down compliance costs while improving governance-driven productivity and profitability.

Elements of the suite include AppGRC for Deltek Costpoint and AppGRC for People-Soft Financials, with more applications to follow. Using automated data baselining and continuous monitoring of data fields at the database layer and their controls, the applications are designed to strengthen the integrity of critical business operations and reporting for applications that use IBM DB2, Microsoft SQL Server, Oracle, or Sybase databases. The suite enables customers to watch data, identifying the who, what, when, and before/after values. When a change exceeds AppGRC's set values, AppGRC issues the company an alert.

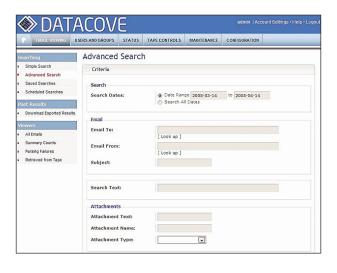
AppGRC is designed to save companies thousands of hours of controls tests by using reports and templates to help companies pass audits. The approach includes discovery, control, and application data and process visibility. AppGRC discovers where sensitive data is stored and how it correlates to processes and applications, and then assesses internal control objectives and how they're being met.

AppGRC monitors operations to reduce the need for evaluations and collects details about data changes. If anything is outside set policies, AppGRC compiles and delivers the results to confirm or deny the effectiveness. AppGRC's full compliance view identifies all data and its controls that have not changed over time, while identifying all data and controls that have changed, with before and after images to minimize audit preparation and simplify presentation.

LUMIGENT

Messaging & Telephony

Остовея 31, 2008



Tangent's DataCove Hosted email archival service captures, indexes, and encrypts all email, attachments, and digital faxes and stores them in a centralized repository for long-term archival.

(650) 342-9388 ext. 2136 www.DataCove.net

Capture & Index All Email & Attachments

Tangent DataCove Hosted Service

Because of recent regulations such as Sarbanes-Oxley, HIPAA, and federal and state e-discovery rules for civil procedures, enterprises need to be able to store, search, and retrieve emails for as long as seven years. Secure storage and quick retrieval are essential.

The hosted version of Tangent's DataCove email archival solution solves the problem by capturing and indexing all email, attached files, PST, and digital faxes. The ESI (electronically stored information) is sent to a central repository located at the Tangent facilities. The repository is equipped with fault-tolerant, redundant, and secure servers to ensure uninterrupted service.

DataCove SaaS email archiving offers a fully searchable database with intuitive menus for easy use and retrieval. Like DataCove's appliance, the hosted service archives email from email servers such as Microsoft Exchange, Lotus Notes, Novell GroupWise, Sendmail, Imail, and all standard message transfer agents utilizing POP3, IMAP, and SMTP protocols.

Features include:

- Email archival compliance
- Management and access via Web-based GUI and Outlook connector
- Message indexing and storage, with redundant disk and media archiving for long-term storage
- Advanced, Web-based, and scheduled search options
- Reliable, long-term storage including automatic archive to AIT WORM tape
- Advanced encryption technology
- 256-bit AES encryption



Product Releases

Continued from Page 15

interface and a management console that allows users to configure their own extensions with advanced call-handling rules based on caller ID and time of call. Afterhours calls from specific customers can be routed to a mobile phone, while all other calls can go to voicemail. 3CX Phone System For Windows 7.0 also adds support for PBX virtualization in Hyper-V to route inbound calls to Outlook contacts and incorporate Windows management tools for monitors. There's also a new configuration wizard and support for Sangoma cards. Phone System For Windows is available in five editions: Free, Mini, Small Business, Pro, and Enterprise.

■ AT&T Telepresence Solution



AT&T announced the AT&T Telepresence Solution, a multipoint, intercompany connectivity tool that allows companies to extend Cisco TelePresence multipoint meetings beyond the enterprise boundary. Cisco TelePresence Multipoint provides the ability to bring many rooms together in a single meeting, so that people can sit face- to-face in one virtual meeting room without performance degradation. The AT&T Telepresence Solution will help enable meetings with customers, suppliers, and partners using the AT&T Business Exchange. It creates an "in-person" experience and provides a "meet me" feature via a secure PIN code that simplifies intercompany calling. The AT&T Telepresence Solution enables enterprises to interact and collaborate with others using the power of Cisco TelePresence to deliver life-size images via high-definition video (1080p) and spatial audio within a specially designed environment.

NETWORKING & VPN

■ 01 Communique Laboratory SecurePC & SecureKEY

01 Communique Laboratory released two security enhancements, SecurePC and SecureKEY, for its I'm InTouch remote access platform. The SecurePC remote access terminal protects companies from loss of data without limiting the flexibility of employees who work outside the office. Using the SecurePC and the I'm InTouch remote access software, employees can control their office workstations from anywhere over the Internet, because all company information remains safe and secure behind the corporate firewall. SecureKEY is a USB security enhancement device that physically authenticates the user throughout the entire remote access session. If the user's SecureKEY is not present in the SecurePC, no remote access to the workstation is possible, even if the correct password has been provided.

■ Dorado Software Redcell Systems Commander

Dorado Software has released Redcell Systems Commander, designed for physical and virtual environments. Automated configuration intends to facilitate streamlined server management. Redcell Systems Commander can integrate with Redcell OpsCenter, Redcell Network Commander, and Redcell Storage Commander; addi-

tionally, it operates with CMDB (configuration management database) association mapping. Connectivity data can be synchronized with CMDB information to formulate a comprehensive picture of the IT data center, enabling administrators to customize their reports. Redcell System Commander can aid in patch identification and remediation, as well as OS updates. This solution starts at \$1,300 for SMEs.

■ HP Mozilla Firefox For HP Virtual Solution

HP made announcements regarding two new additions to its lineup. First up is a virtual protection tool that endows Firefox with a Symantec Software Virtualization Solution layer. With it, users surf in a virtual layer, which prevents changes to the OS and allows easy resetting to a known good state. In other news, the company announced a new Linux business computer, the HP Compaq dc5850 with SUSE Linux Enterprise Desktop (\$519).

■ Neptuny Caplan SaaS

Neptuny has announced Caplan SaaS for small to medium-sized enterprises that want to set up a small-scale capacity planning and management project. Caplan's agentless design can cover multiple domains in a single solution and can integrate with major management platforms right out of the box. Caplan features high-availability service with no setup and maintenance costs, a secure and easy-to-use Web interface, and a flexible subscription plan that can be renewed for additional periods.

■ PlateSpin Workload Management

PlateSpin has announced enhancements to its Workload Management product, which affects PlateSpin ReconTM, Plate-Spin Migrate, PlateSpin Protect, and PlateSpin OrchestrateTM. The enhancements enable customers to profile, migrate, protect, and manage server workloads between physical and virtual infrastructures in heterogeneous IT environments. It also makes Workload Manage-ment the only product that supports 32- and 64-bit Windows and Linux servers, as well as all leading hypervisors, including Citrix XenServer, Microsoft Hyper-V and Virtual Server, VMware ESX and ESXi, and Xen integrated in SUSE Linux Enterprise Server.

PHYSICAL INFRASTRUCTURE

■ Eaton Power Distribution Rack

Eaton released the Eaton PDR (Power Distribution Rack) for rack environments. Functioning as a space-saving power distribution center, the PDR can support 168 branch breakers and includes 225A or 400A panels. It's designed to fit in existing systems, including top and bottom cable connections. The PDR has minimal structural distractions due to its economical design and practical status LCD. Other features include the Eaton Energy Management System for monitoring power circuits and easy access architecture. The standalone configuration is suitable for multiple installation locations.

■ Server Technology Sentry Power Manager

Server Technology released the SPM (Sentry Power Manager) for the IT management of Sentry Cabinet PDUs (power distribution units). The central interface allows IT management to assess the power, temperature, and humidity status. Through automatic discovery, SPM can detect PDUs. By trending start and end dates, SPM logs discovery information, user actions, and alarm status. The

Sentry POPS (per outlet power sensing) offers power monitoring of current, kilowatts, crest factor, and other factors. The SPM's clustering technology gives users monitoring access across IP addresses. Additional features are remote management of Sentry Cabinet PDUs, custom configuration settings, preinstalled hardware, and location-based email alerts.

■ Staco FirstLine 37.5kVA UPS



A new on-line, double-conversion, three-phase UPS expands Staco Energy Products' FirstLine series to 37.5kVA. The new model offers more than six minutes of run time, which is scalable through additional battery units. It provides power conditioning and harmonic correction without a transformer and costs 20 to 30% less than comparable UPSes from other manufacturers, Staco says.

SECURITY

■ Celestix Networks Network-Security Appliances Based On Hydrus & Pyxis Platforms

Celestix Networks announced the addition of network-security appliances based on its new Pyxis and Hydrus hardware platforms. Celestix designed the new hardware platforms to raise the performance of network-security applications and lower the per-user cost of providing security for large enterprise IT networks. Based around Intel's Xeon processors, Celestix appliance platforms can deploy network applications, such as Microsoft ISA Server 2006 and Microsoft IAG 2007, as well as Websense content filtering, Kaspersky antivirus, and other core security functions. Hydrus is designed for security deployments at large enterprises and features Intel's quad-core Xeon 5400 series CPUs on a 1,333MHz frontside bus for high-capacity memory access. Pyxis hardware employs dual-core Intel Xeon 3000 series processors, and a 3210 System Controller chip provides a 1,333MHz FSB to scale high-speed security to midsized enterprises.

■ Kaseya Endpoint Security & Backup & Discovery Modules

Two new versions of KES (Kaseya Endpoint Security) and BU-DR (Backup and Discovery) modules, designed to offer significant automation capabilities for fast deployment and efficient utilization of IT resources, are available from Kaseya. The modules are integrated at the user-interface and database levels and give users visibility of all deployment, configuration, status, and operations of endpoint security, all within Kaseya's unified and consistent Web-based console. Further, they're designed to provide unparalleled integration for unified deployment and management of antivirus, antispyware, and rootkit protection for Microsoft OS-based servers, workstations, and mobile computers. Other features include Incremental Forever and Synthetic Full backups for efficient offsite replication and user-defined archival capabilities, as well as Instant Virtualization, which allows any backup to be converted to a VMware, ESX, or Virtual PC virtual disk remotely and automatically within minutes.

■ Liquid Machines & McAfee Joint Data Loss Release



Liquid Machines and McAfee have partnered on a release aimed at preventing loss of corporate intellectual property and industry or regulated data. The release uses McAfee's DLP Discover to enable users to locate data no matter where it's stored, and DLP Prevent enforces data protection. Liquid Machines' technology for securing and controlling intellectual property, such as executive and board communications, customer data, and human resources data, continually protects digital data, and it also collaborates with and adheres to regulatory compliance. The joint release supports Microsoft Office System, Windows Vista, and Intelbased 64-bit systems, among other applications, OSes, and platforms. The first version of the release is available through the Liquid Machines Gateway for DLP for proof-of-concept evaluation.

■ Skybox Security Skybox Assure Version 4.1

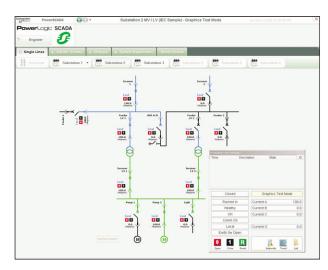
Skybox Security has released Skybox Assure version 4.1, which includes Skybox's Firewall Compliance Auditor and Network Compliance Auditor. This will allow organizations to automate assessments and compliance processes in order to meet requirements 1, 6, 11, and 12 of the PCI DSS (Payment Card Industry's Data Security Standard) V1.2. The release includes upgrades such as complete risk and compliance lifecycle management, comprehensive network access policy management, and widespread network access policy management. Additionally, Skybox Assure version 4.1 guards against the deployment of bad firewalls or router configurations that can result in serious risk or compliance exposures.

■ WinMagic SecureDoc & Fujitsu Full-Disk Encryption



WinMagic and Fujitsu announced they are combining products from their respective companies to offer manageable enterprise-class security for data-at-rest. The products include WinMagic's SecureDoc software and Fujitsu's FDE (full-disk encryption) hard drive technology, which, when combined, will protect data on desktops and notebooks. Fujitsu's hardwareintegrated encryption technology and security capabilities seek to securely and instantly make drive-based data inaccessible during redeployment or disposal of physical drives through the immediate invalidation of all data through a change in the in-drive encryption key. Fujitsu says the process takes less than a second. WinMagic's software, meanwhile, offers centrally manageable security abilities via the SecureDoc Enterprise Server console. Enterprise-class functions include silent software installation, interoperability with Active Directory, remote password recovery, policy management, and more. Benefits include 256-bit AES hardware and Go to Page 18

PHYSICAL INFRASTRUCTURE



Square D PowerLogic SCADA software offers real-time monitoring and control of electrical distribution systems.

OCTOBER 31, 2008

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Software For Power Monitoring & Control Systems

Square D® PowerLogic® SCADA Software

If your enterprise requires real-time monitoring and control of its electrical distribution system, including fast response times and high reliability through redundancy, consider Square D PowerLogic SCADA software version 7.1 from Schneider Electric, a global power and control specialist.

PowerLogic SCADA 7.1 is powered by Citect SCADA (Supervisory Control And Data Acquisition) technology but has been specifically designed for electrical power system applications. The PowerLogic SCADA solution includes a graphical user interface, enhanced alarm management, one-second response times for control operation and status, transparent redundancy, and reliable communications through hardware components and network topology. The system also features SER (sequence of events recor-der) logs with time stamps of 1ms resolution.

PowerLogic SCADA 7.1 software includes a Web-based client for remote viewing capability. The graphical user interface consists of animated objects that change according to status information. The flexible graphics editor includes both ANSI and IEC electrical symbols to facilitate easy one-line diagram creation. Real-time and historical trending is also supported.

Intended for customers with critical applications such as data centers, hospitals, and continuous process plants, the PowerLogic SCADA system enables higher efficiency for operators in normal or critical situations by providing instant data intelligence for power distribution.



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PROCESSOR.com[®]

Continued from Page 17 software encryption, low ownership costs, and "defense-in-depth" ability.

SERVERS

■ Sun Microsystems Sun Fire x64 & Sun Blade Systems

Sun Microsystems unveiled the latest in its line of AMD Opteron-powered Sun Fire x64 servers and Sun Blade systems. The new servers support up to 100 virtual servers on a single system and work with Solaris 10, Linux, Windows, and VMware. The new additions to Sun's x64 family include the Sun Blade X6440 server module, Sun Fire X4600 M2 server, Sun Fire X4240 server, and the Sun Fire X4440 server. The latest x64 systems are all eligible for a free 60-day trial through Sun's Try and Buy Program. The new Sun Fire x64 servers start at \$1,900.

SERVICES

■ Oriso Solutions iGOvirtual

Oriso Solutions introduced iGOvirtual, a turnkey corporate IT infrastructure outsourcing service. The IT infrastructure and outsourcing service provides support through one Internet portal 24 hours a day, seven days a week, and 365 days a year. By hosting servers, applications, and data, users are given access to their data from anywhere and at any time. iGOvirtual also eliminates the need for organizations to continuously reinvest in equipment that depreciates over time.

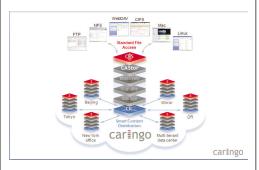
■ StrataScale IronScale

StrataScale announced IronScale, its automated managed hosting solution that carries many of the same benefits of

virtualization but operates with physical servers. IronScale allows users to control their IT infrastructure from anywhere via an advanced Web portal. IronScale's features include instant provisioning and dynamic reconfiguration of physical servers, security, storage, and networks ondemand in real time. IronScale is available in three bundled server environments built on enterprise-class dual- and quad-core x86 servers. The bundles feature RAID-configured SAN storage, user's choice of OS, dedicated bandwidth, and VPN access.

STORAGE

■ Caringo CAStor CFS



Caringo has released the CAStor CFS (Content File Server), which the company says offers standard file-system access to CAStor content storage, which can scale from small capacities out to meet the quick growth of file-based data. Built on CAStor object-based storage clusters and third-generation content addressable storage technology, CFS lets the file system expand to support up to billions of files that span up to petabytes of storage. It is POSIX-compliant and supports CIFS, NFS, Mac, FTP, WebDav, and the Linux file system. Additionally, full support of Active Directory and Access Control lists,

as well as the Timescape feature, is integrated into the product.

■ FalconStor File Interface Data Deduplication System

FalconStor's new file interface deduplication system doesn't have a name, but it will when it becomes widely available in the first quarter of next year. With the new addition, FalconStor customers now can select a deduplication system with a file interface, a VTL interface, or both. The company also announced enhancements to its virtual tape library software, including support for 10Gbps iSCSI and 8Gbps Fibre Channel connectivity for faster and more cost-efficient backups.

■ Idealstor iBac Virtual Infrastructure Proxy

Idealstor released iBac VIP (Virtual Infrastructure Proxy), an enterprise backup tool for VMware virtual servers. iBac VIP is designed specifically for VMware virtual machines running in an ESX server environment, and it's licensed per ESX serverregardless of the number of virtual machines or processors running on the server. iBac VIP ties in to the VCB framework provided by VMware, which helps move the load from the ESX server to a dedicated 2003 backup server when running backups. It can back up data residing on a Fibre Channel or iSCSI SAN, or VIP can back up data directly from the ESX server over the LAN. Through the VIP interface, IT staff can schedule, log email reports, and back up multiple ESX servers on the LAN or in remote data centers.

■ iQstor Turnkey SAN Solutions

iQstor announced a comprehensive software bundle of storage management and data protection services that will be included

with each of its storage arrays to provide complete turnkey SAN solutions. The bundle is designed to leverage ease-of-use capabilities and to deliver advanced management and security features, such as storage virtualization and SAN management, along with built-in data protection features such as instant point-in-time consistent snapshots, local and remote replication, and volume copy services. Features include redundant fault-tolerant storage capacity, cost-effective vertical capacity expansion, and seamless scaling with a single management interface.

■ Paragon Hard Disk Manager 2009 Server



SMEs looking for easy file- and imagelevel backup and bare metal recovery—without a high cost—should consider Paragon Software's new Server edition of its Hard Disk Manager. A key feature is Paragon Adaptive Restore, which enables restoration of a Windows Vista installation to a virtual machine or different hardware. In addition, there's secure dual booting, lossless partitioning, boot troubleshooting, and more.

■ Sonasoft SonaSafe For SQL Servers

Sonasoft has unveiled a new version of its SonaSafe for SQL Servers, which

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updates the program to provide predefined templates for backup, a new user interface, improved manageability, enhanced replication, and a recovery capability. SonaSafe for SQL Servers is designed to guard information from hardware and software failures, along with human errors. SonaSafe for SQL Servers preserves the redundant standby server by frequently updating the information with info recovered from the primary system. Additionally, the standby system can instantly kick in if the primary system fails. This system can either be onsite or at a remote location to guard against natural and manmade disasters.

■ StoneFly S-Class ISC IP SANs

StoneFly has announced that it will offer high-capacity SAS expansions for all four S-Class models in its ISC (Integrated Storage Concentrator) line of IP SANs. The new S-Class ISC systems are being offered in addition to the existing SATA-only ISC models that StoneFly has offered since 2006. S-Class ISC systems are available in configurations ranging from 2 to 24TB in a single node. They also come with six Gigabit Ethernet ports, or they can be upgraded to support dual 10G connections.

StoneFly OptiSAN-HD

StoneFly announced OptiSAN-HD, an IP SAN designed to combine high-performance operation with clear-cut, economical IP SAN technology in order to improve enterprise storage networking for IT environments. OptiSAN-HD has 48 disks and can support up to 128 drives in its standard configuration. Additionally, the OptiSAN-HD is specially made for enterprises that

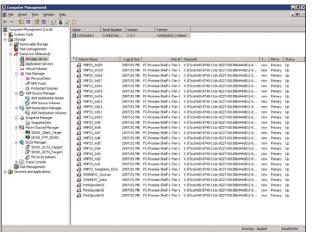
need 30 to 40TB of storage initially, and it can provide centralized storage for 10 to 15 remote sites. The OptiSAN-HD can also meet the demands of core applications, including virtual servers, email servers, disk-to-disk backup, disaster recovery, and online transaction processing.

■ Super Talent Technology UltraDrive LE & **ME Solid-State Drives**

Super Talent's latest UltraDrive solidstate drives are ideally suited to the performance and reliability demands of enterprise servers and data centers. The UltraDrive LE SSDs support sequential read/write speeds of 230/170MBps and are available in 32GB, 64GB, and 128GB capacities. The UltraDrive ME SSDs are 2.5 inches thick and are optimized for SATA-II notebooks. They support sequential read/write speeds up to 200/160MBps and come in capacities up to 256GB. Super Talent's UltraDrive LE and ME SSDs will be available next month.

■ Symantec Veritas Cluster Server For VMware ESX

Symantec announced the release of VCS (Veritas Cluster Server) exclusively for VMware ESX within VMware environments. Symantec and VMware have collaborated to deliver complementary HA/DR solutions and features for VMware vCenter. VCS is for high availability on virtual machines and application; specifically, VCS can manage numbers clusters (local and remote) on one console on any OS. Disaster recovery automation protects the underlying server but doesn't disrupt the physical environment. Overall, VCS is a platform for full protection and downtime anticipation.



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DataCore SANmelody overcomes the high cost barrier and complexity of traditional SANs by converting x86-based servers (physical or virtual) into fully capable SAN controllers that can

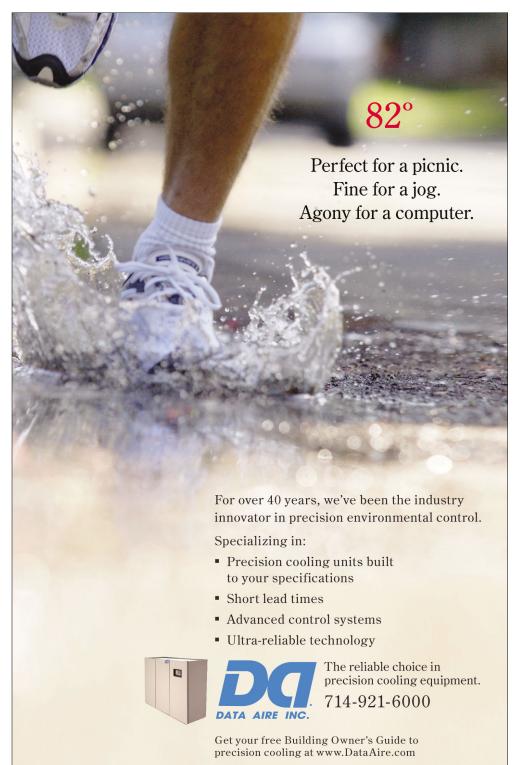
virtualize any raw disk and serve them to application servers over iSCSI or Fiber channel.

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Noise from computer equipment is on the rise. As the manufacturers of computer equipment try to squeeze more computing power into less space, heat increases, while fan size often shrinks. With more heat and smaller fans, computer equipment becomes louder and more irritating from the faster spinning, high-pitched fans.

GizMac XRackPro2 is the solution for noise produced from rackmount equipment. The XRackPro2 enclosed server rack can reduce computer equipment noise up to 80%. Based on an industrystandard four-post rack and a deep railto-rail distance, the XRackPro2 can accommodate most types of rackmount equipment and will help create a more productive workplace by removing distracting noise.

Loud rackmount computer servers, RAID systems, switches, and other equipment become much quieter inside the XRackPro2. This acoustically engineered rack uses multiple sound reduction methods to reduce the noise levels. The significant reduction in noise of the equipment inside the XRackPro2 allows people to work near loud computer systems without distraction.

In addition to reducing noise, the XRackPro2 filters the incoming air, provides key-lockable doors, and allows for mobility. Air filters, locking doors, and wheel options are available on all models. These additional features provide benefits that make the XRackPro2 an even greater value in the fight to reduce computer equipment noise.



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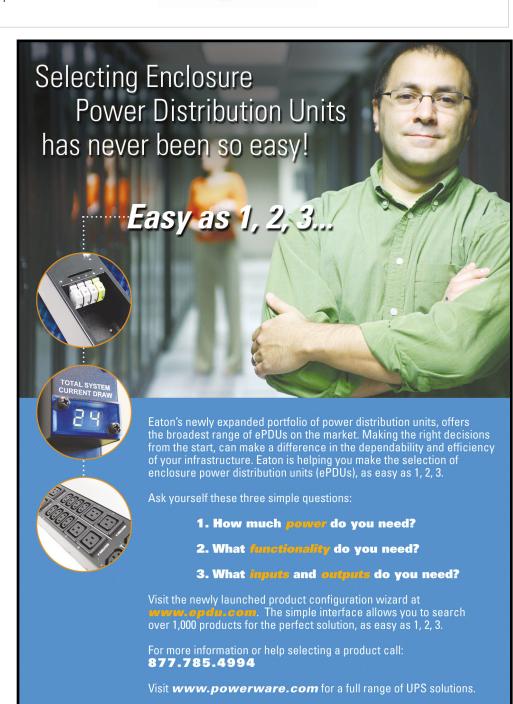
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Moving data to and from the cloud can be

done by utilizing a NAS-style gateway, an

on-premise software application that makes

any available server into a cloud gateway,

presenting the cloud as a standard file sys-

tem. The second option for migration is to

have the application access the cloud direct-

storage, and even replication are the re-

sponsibility of the cloud storage provider.

Further considerations related to power,

Power-Efficient **Storage Systems**

Reduce The Power & Energy Used By Your Storage Equipment

by George Crump

STORAGE SYSTEMS consume as much as 24 to 40% of total IT power usage and have become a primary target in green IT initiatives. The challenge is how to create a more power-efficient storage infrastructure while dealing with explosive growth in that storage.

Unlike other green IT initiatives, storage is unique; the classic problem is that 80% of the data has not been accessed in the past 90 days and will likely not be accessed again. However, retaining that data is still important for legal and corporate governance reasons.

To respond, most major hard drive manufacturers have released "green drives." These drives typically save power by spinning down or going into a standby mode. Simply implementing power-efficient drives is not enough—if the data is not placed on the

Key Steps To Power-Efficient Storage

- Identify what data you have
- · Migrate to power-efficient secondary storage
- Restructure primary storage to power down open shelves

drives in an efficient manner to make sure that old data is not mixed with active data, the drives will never have the opportunity to spin down or will spin up and spin down so frequently that they actually consume more power than the drives they replaced.

Identify & Migrate Inactive Data

Migration of inactive data off of primary storage and onto power-managed secondary storage is the logical first step in creating a

power-efficient storage infrastructure. An

alternative is to migrate this data out of the data center altogether and leverage one of

The key ingredient to migrating the inac-

tive data set is identifying the data that has not

been accessed that is eligible for migration.

Another decision point is how to accomplish

access to the old data. Some tools identify

and move the data; other tools add the ability

The final step in the migration phase is to

implement a process by which you will

the cloud storage service providers.

to transparently access that data.

monitor this data set. "A real-time, headsup display is critical for taking action on data the moment data becomes eligible for migration," says Stephen Harding, director of marketing at Tek-Tools Software (www.tek-tools.com).

When migrating data for power efficiency, the goal is different compared to the traditional ILM models of the late '90s. The ILM model typically migrated data as the capacity of the volume filled; with power efficiency, the goal is to free up storage to the point that primary storage shelves can be physically turned off. According to Harding, "to accomplish this requires a more real-time interaction with the data."

Select Secondary Storage

After determining how data will be identified and migrated, the selection of secondary storage is made. The first step in this phase is to determine where to store the data. You must choose to either store the data in-house or utilize a cloud storage provider. The next step is to determine how to store the old data.

For those IT professionals who would rather keep data under their roofs or are concerned with the long-term cost of cloud storage, a local power-optimized secondary storage platform may be more appropriate.

When looking for a on-premise powermanaged second tier, Chris Santilli, CTO at Copan Systems (www.copansystems.com), suggests that, "A power-efficient archive needs more than just green drives; it needs to be a complete solution that can not only power down or power off drives as required, but also it needs to have the intelligence to place data on the system to maximize the power efficiency." In other words, you want to make sure drives that are powered off stay in that state for as long as possible.

"Proper power management and data placement allows for the very dense packing of the physical drives, optimizing costs and improving floor space," continues

been accessed that is eligible for migration. "Leveraging cloud-based storage for an archive delivers two immediate benefits that intersect well with the need to reduce power consumption and the need to deal with flat or

shrinking IT budgets," says Adrian Herrera, senior director of marketing at Nirvanix (www.nirvanix.com), a cloud storage provider. The advantage of a cloud-based storage solution is that there is no on-premise equipment to consume power. Also, it is a pay-as-you-grow purchasing model and, as a result, defrays the large initial acquisition

costs that an on-premise solution may have.

After Migration, **Green Steps**

ly via the cloud provider's API set.

- · Leverage inline compression to reduce active storage
- · Leverage deduplication to reduce inactive but not migrated data set
- · Look for thin provisioning and intelligent data movement when purchasing new storage

Go to Page 25

It's All Right Here, In A No-Nonsense Format

The key ingredient to migrating the inactive

data set is identifying the data that has not

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Modernize Your Infrastructure Without Breaking The Bank

Use Selective IT Investments & Cost-Cutting Strategies

by Kurt Marko

IT MANAGERS ARE constantly walking a tightrope between growing customer demand for IT services and the enterprise imperative of controlling costs. Yet the winds of economic uncertainty are howling at unprecedented levels. IT managers will face tough choices in the coming year—where to spend precious investment dollars and where to cut. Although recessionary fears were in the back of every executive's mind over the summer, this fall's financial shocks have put cost control front and center on the IT agenda. At this year's Gartner Symposium/ITxpo, its analysts felt that one of the most contentious issues for IT departments over the next two years will be how to more rapidly modernize infrastructure and operations while simultaneously reducing costs.

In summarizing nine thorny problems IT managers must address in the next two years, Gartner notes, "Infrastructure and operations leaders recognize that accelerating modernization is the only way to deal with rapid increases in demand growth and the need to respond more rapidly to the business but must balance this against unrelenting pressure to reduce costs." Yet Jeff Johnson, CEO of CMIT Solutions Sacramento (www .cmitsolutions.com/saccentral) cautions against wanton cost cutting, noting that enterprises still need to run their business. "You don't want to be a statistic in this economy," he adds. Experts offer some advice on how enterprises can balance the need for modernizing and expanding IT operations with prudent financial management.

Areas Most Ripe For Upgrading

Targeted short-term investments can often yield long-term strategic or financial advantages. Betsy Burton, VP distinguished analyst at Gartner, says that "innovation can help turn this [economic] crisis into an opportunity . . . it's an opportunity for your organization to come out of this economic crisis being able to continue to run and grow your business.

"Now is the time to tap in to the innovative capabilities of your organization, and that means focusing in on people."

This economic climate means that IT needs to think out of the box, says Val Sribar, Gartner analyst and group vice president. "As an IT person, this means asking

basic questions, like 'Should we be running our own mail system?' or 'Should we look for cloud services from people like Google with Gmail?'" Sribar also says IT should look at whether some of their enterprise processes can be outsourced.

Jennifer Colasanti, senior research consultant at Info-Tech Research Group, agrees that outsourcing and aggressive vendor management (for example, vendor consolidations, contract renegotiations, and service-level reductions), are a common, and typically less disruptive, source of IT cost savings. Johnson notes that outsourcing IT operations can be particularly effective for small enterprises that may only have one or two IT staffers. CMIT has found that SMEs using a flat-rate IT management service can save 43 to 67% in staffing costs without sacrificing (and in many cases, improving) service quality.

Another technology investment that analysts caution against sacrificing in tight times is server and storage consolidation. IT managers seem to be getting the message: At a recent CDW Partner Summit, a survey of IT managers found that virtualization topped the list of technologies expected to grow in the coming year. Gartner's analysts concur, seeing consolidation projects as among those IT

organizations should pursue in these tight times. Gartner "recommends emphasizing modernization projects that can be 'self-funding,' that is, pay for themselves, which can often be achieved through infrastructure and operations consolidation and virtualization."

Johnson also advises enterprises, particularly small ones, not to cut corners on backup and disaster recovery projects. He notes that a robust automated backup solution can not only save businesses from lifethreatening shutdowns but also improve employee efficiency by minimizing downtime and reducing the need for IT staff to babysit clunky manual processes.

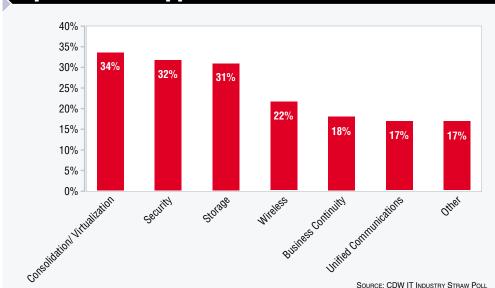
Areas For Cuts Or Efficiency Improvements

Prime targets for IT cuts generally depend upon the level of savings required, Colasanti says. From more than 200 surveys and interviews with IT leaders, she found that "when faced with reductions of more than 5%, organizations tend to choose staffing and salary changes and vendor and outsourcer management to reduce costs."

Although salary and staff reductions can yield significant savings, they inflict a lot of pain on an organization. "Changes in this area often deliver the expected cost reductions but at some expense to morale and IT operations," she notes. "Layoffs result in existing employees being forced to

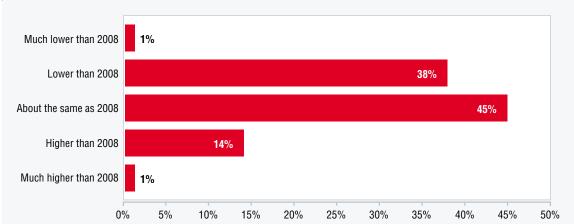
ng employees being forced to Go to Page 24

Top IT Growth Opportunities In 2009



CDW conducted its annual IT Industry Straw Poll, a survey of 273 IT leaders, at its annual Partner Summit. When asked, "In what technology areas do you expect to see growth for 2009?," the poll found the areas of strongest growth potential were virtualization, security, and storage.

IT Executives' 2009 Spending Plans



SOURCE: CDW IT INDUSTRY STRAW POLL

CDW conducted its annual IT Industry Straw Poll, a survey of 273 IT leaders, at its annual Partner Summit. Though many customer budgets will shrink, IT companies expect 60% of customers to maintain or increase their budgets over 2008. However, when asked to define their top business challenge in 2008, 78% cited the weak economy as their enterprises' biggest obstacle throughout the year.

Study: Business Smartphone Use Set For Rapid Growth

News

A recent poll of more than 340 companies in North America and Western Europe has found that enterprises are turning to smartphones like never before. The survey, published by the technology analyst firm J.Gold Associates, also shows that notebooks may be losing their status as the preferred device for performing out-of-office tasks.

According to the study, "Enterprise Mobile Applications: A Study of Strategies and Adoption Trends," companies plan to increase smartphone deployments by 30% during the coming year and 100% during the next three years. In the first year, the surveyed businesses expect to ramp up access to corporate applications from these devices by 71%, but that number jumps to 196% after three years.

"It's getting much easier to deploy mobile apps: There are things you can do and things you can't do, and businesses know what the 'can't dos' are more than they used to," says Jack Gold, president and principal analyst of J.Gold Associates.

Companies surveyed indicated that their current notebook deployments would not grow in the coming year. The reservations persist over the long-term, as well, with businesses planning to increase the median number of notebooks in use by just 25% in the next three years. Regarding access to corporate applications from notebooks, businesses expected 75% growth in the next year and 100% growth during the next three years.



Need To Be Connected

Gold attributes the impressive smartphone adoption rate to several factors; "more and more businesses, and users within those businesses, are becoming more and more mobile. When I'm on the road, working from home, or at a soccer game, I still need to be connected."

Gold goes on to say, "A typical smartphone of today has the processing power and memory capabilities of a PC from only three to four years ago; wireless connections are much more broadly available; and the battery lasts sometimes days before we have to recharge. All of these have made [smartphones] much more appealing to business users than . . . a 6- or 8-pound laptop, especially when a lot of what those users do is to simply input small amounts of data."

What does this mean for the average small to midsized enterprise? "It means that if you're not already looking at mobility with a smartphone, you will be soon," Gold says.

by Andrew Leibman

a generation where they were rewarded for just showing up," Paris says. Even so, they're looking for a manager who will mentor them and collaborate with them.

But watch out. Gen Ys "hate working for

managers who are cynical or sarcastic." It's

Differences Within

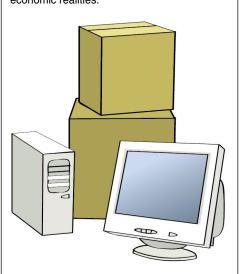
Just because an IT worker is a 20-something

doesn't mean they're going to fit exactly into

Differences

Analyst firm iSuppli has significantly revised its PC shipments growth figures forecast, citing the major economic downturn as a factor.

Matthew Wilkins, iSuppli's principal analyst for compute platforms, says the recent credit market crash has drastically "and in many ways irrevocably" changed the worldwide economy. Not only has the situation sharply decreased the amount of money available for applications markets, Wilkins says, but the money that is available is more expensive. That led iSuppli to restate its figures for next year's PC market to better reflect the new economic realities.



The firm's latest forecast for global PC shipments puts its growth during 2009 at 4.3%, a significant drop from iSuppli's earlier and more optimistic prediction of 11.9% expansion. 2010 will see shipments increasing by 7.1%, according to the firm. This is a less bearish figure than 2009's current outlook, but it is still a number that has been scaled downward from 9.4%.

For nearly six years, iSuppli notes, PC shipments have expanded by about 10% on a worldwide basis. However, the recent financial crisis involving subprime mortgage lending and its devastating effect on the credit market have made it likely that growth in this area will slow greatly in the near term.

Businesses are facing difficulty in allocating shrinking resources, Wilkins says, such as meeting payroll and mortgage obligations. Consumers, too, are being hit with rising costs and dwindling incomes. The overall result is that new PC purchases are being delayed, as are upgrades, in many cases.

PC Shipments Plummet

iSuppli's worldwide PC shipments forecasts are split between a floundering desktop segment and notebooks, which are doing quite well. Shipments of the desktop PCs will drop by 5% in the next year, iSuppli says.

In a relatively bright market segment, notebooks will continue to sell in greater numbers, although not as briskly as has been the case in previous years. Notebook shipments will climb by 15% in 2009, iSuppli says, because of the growing popularity of mobile computing.

The netbook market in particular will buoy notebook sales figures. These low-powered laptops, designed to primarily run Webbased applications instead of locally installed programs, are selling well. The analyst firm provided no breakout numbers for netbooks in its forecast announcement, but it says the low cost of netbooks has spurred their adoption.

by Marty Sems

20-Something IT Personnel

How To Make The Most Of Gen Y

by James Cope

IT STAFFERS OR WANNABES who turned 20 this year were born way back in 1988. That means they graduated from high school in the mid-2000s and have either finished trade school or are in their senior year of college. They're called Generation Y or Millennials by demographers. SMEs who hire them for data center duties need to understand what makes them tick.

What They Know

Unlike their Generation X predecessors, who had plenty of technical savvy of their own, Gen Y workers come with IT as part of their common knowledge, says Tammy Hughes, president of Claire Raines Associates (www.generationsatwork.com). She says, "More than 50% of the group's toys contained microprocessors; they were digital in diapers." That sentiment is echoed by Kerri Paris, director of staffing services at Atlantic Associates (www .atlanticai.com), a staffing firm in Boston, who explains that this is a generation that grew up online. They received their high school grades online and expect to have access to their private world in the same way, even when they go to work for a company. Facebook and LinkedIn are integral to Gen Y's lives.

But their intimacy with technology can present challenges in the workplace, even when a 20-something's role is right in the thick of data center activity.

The problem, says Hughes, is that they may rely on technology to the exclusion of personal interactions with the people around them. "They're more comfortable looking at a screen or a plan; face-to-face dialogue can be difficult for Millennials, but they are very coachable. They need to learn about eye-to-eye contact, which is one of the prized things the Boomers bring to the workplace," Hughes explains.

Understanding Gen Y

Gen Ys "love working for managers who teach them new things," Hughes says. And they want to learn quickly. They like managers who are curious about personal goals and want their managers to help them achieve those goals. More than anything, Gen Ys "want managers who are positive," Huges says.

Do Millennials need recognition? Absolutely, and no wonder. "They grew up in

the descriptive confines of their generation. No doubt there are Millennials out there who could give a rip about iPods and there are

Boomers who wouldn't be without one. You're going to find there are some Millennials who are naturals when it comes to personal interaction and many Gen X workers who are committed to volunteer work. Still, elements of generational profiles ring true, and the fact that we are influenced by times during our formative years is readily observable in the data center workplace. Recognizing the attitudes, skills, and vulnerabilities that 20-somethings bring to your company can contribute to the harmony and productivity of your organization.

a trait of Generation X, and "it drives them nuts," Hughes says. Treating Millennials like they're too young also can send them over the proverbial edge and out the data center door. While such behavior has been a recurring pattern across generational groups in all organizations, "it has become much more of a benchmark" with the Gen Ys, Hughes notes. She says, "Watch out for managers who say 'pay your dues'—they [Gen Y workers] may leave."

According to Paris, The 20-somethings "are very energetic at work, are more philanthropically inclined [than Gen X workers]," and look for a balance between work and their personal lives. Hughes concurs, noting that the Millennials are perhaps the most civic-minded group since the World War II generation. She says, "They have two times the volunteer hours than the Boomers and Gen X groups combined." And although they may lack the interpersonal skills of the Boomers, Gen Ys are open to coaching and collaboration.

Paris says even those SMEs who are finding the current economic times challenging should resist the urge to diminish the role of Gen Ys in their organizations. "Companies we work with are concerned about the graying of their teams," says Paris. And to remain viable going forward, organizations need to plan for the transfer of knowledge from the Boomers and other older workers (who are leaving the workforce) to the Gen X and the up-and-coming Gen Y IT professionals.

Tapping Into Gen Y Power

Tapping into the power of 20something IT workers in your SME may be the best way to hedge your bets against future staffing challenges and ensure that you have people who are ready to learn new things. You'll likely find that the Millennials in your midst are not afraid of change. And while they have strong values that emphasize civic and personal commitments, aspirations that may seemingly compete with work, Gen Ys are highly energetic. They will work hard and can quickly switch focus from one project to another.

Gen Ys look for a collaborative atmosphere, or at least

for an organization that gives them an opportunity to have one-to-one working relationships with employees who are older and more experienced. They should be coached, not ordered about. Avoid the "you need to pay your dues" form of management. Instead, engage your 20-somethings in meaningful projects as well as routine administration of the enterprise.

Understand that they grew up an era of instant gratification, which in work terms translates into recognition of their efforts and the need to give ongoing feedback about how they're doing. Don't wait until the annual performance review, advises Kerri Paris, director of staffing services at Atlantic Associates.

Keep in mind that Millennials work best reporting to managers who are organized and can articulate desired outcomes from their staff. Tammy Hughes at Claire Raines & Associates (www.generations atwork.com) counsels SMEs to create a "reasonable structure" within which 20-somethings feel free to work.

Paris says sometimes you may need to "rein in" your Gen Y IT employees to help them focus their energy on the tasks at hand. That said, don't do so in a condescending manner, Hughes cautions.

Modernize Your Infrastructure Without Breaking The Bank

Continued from Page 23

multitask and take on new, sometimes unfamiliar, roles, leading to burnouts and lower morale and productivity." According to Colasanti, layoffs should only be considered by enterprises needing to cut more than 5% of their budget.

Vendor and outsourcer management and consolidation offer another means to double-digit cost savings. Colasanti finds that "organizations are most successful with cost reductions in this area and experience the fewest negative effects on morale, IT operations, and the business." However, these often take longer to materialize than people expect.

Reprioritizing existing projects and delaying or canceling those deemed less critical is another cost reduction strategy. However, although the negative impact on the IT department is minimal, Colasanti says these have proven to offer "limited potential for major ongoing cost reduction efforts." She adds, "Examples of projects that have typically been canceled due to cost reductions include ITIL, end-user hardware upgrades, new data centers, and enterprise application procurement."

Rudy Rangel, sales manager of Rackmount Solutions (972/272-6631; www.rack mountsolutions.net), notes that although enterprises shouldn't skimp on infrastructure

equipment they truly need, buyers can often achieve significant savings by avoiding unnecessary luxuries. Travel, conferences, team-building events, and training are usually the first discretionary items to get the axe.

Discretionary spending is a common scapegoat for budget-squeezing CFOs, but Colasanti advises caution. "Attempts to reduce discretionary spending are fraught with risk and seldom produce the level of savings IT expects," she says, explaining it is often a small part of the IT budget.

What Next Year Holds

The year 2009 promises to be one of the most challenging business climates in the careers of most IT professionals, yet that shouldn't be an excuse for panicky, ill-conceived cuts to strategic IT functions. Some well-placed short-term investments, with selective expense or staff reductions, should allow most organizations to emerge stronger, more agile, and more efficient than ever.

How To

Move From PBX To A VoIP Infrastructure

Consider All The Options Before Making The Switch

by Jean Thilmany

COMPANIES OFTEN look to move from their PBX (private branch exchange) to VoIP (Voice over Internet Protocol) to slash their telephone and data transmission costs. But IP is also the platform for the future. With the switch, IT managers can rest assured they're prepared for the applications a converged voice and data system can support, says Katherine Trost, an analyst at Nemertes Research who has studied VoIP.

Key Points

Companies can slash IT costs by getting voice and data delivered on the same line. But they'll need to determine how their present PBX (private branch exchange) system will fit into VoIP (Voice over IP).

VoIP can reduce communication and infrastructure costs because it routes phone calls over existing data networks and avoids duplicating network systems. Day-to-day benefits include the capability to program a call to ring on a cell phone, office desk, or home line; using your laptop as a telephone; dialing a number by simply clicking it on a Web page; and essentially maintaining virtual call centers with employees working from remote locations, says Clark Peterson, chief executive officer at VoIP provider Telesphere (www.telesphere.com).

But these companies can't jump into the move blindly, especially as more and more vendors compete in the VoIP marketplace, making comparing their offerings confusing. Though Skype (www.skype.com) and Vonage (www.vonage.com) have achieved widespread name recognization, hundreds of providers have entered the marketplace, Trost says.

First things first, a company contemplating the move from PBX to VoIP needs to make sure it has a stable LAN in place that can support both voice and data, says William Bumbernick, chief executive officer at VoIP provider Alteva (www.altevatel.com).

In an ideal world, he says companies would have separate phone and data switches at every workstation. Of course, cost and other considerations often rule that possibility out. In that case, companies should consider using virtual LAN switches, also called managed switches, which separate voice from data at the workstation level.

Also, consider network resiliency and availability. Look to an Ethernet switch that prioritizes voice or video above data traffic, says Greg Heath, director of convergence solutions at Extreme Networks (www.extremenetworks.com), which builds Ethernet systems.

"If there's a hiccup on the line because voice isn't prioritized, that's distracting for people on the call," Heath says.

Delivery Method

When looking at VoIP configuration, companies must take into account things such as employee number, their mobile workforce, and any call center considerations, such as the capability to queue calls, says Paul Marra, vice president of business development at managed IP provider MegaPath (www.megapath.com)

But bringing in IP doesn't mean a company will need to do away with its PBX system, Peterson says. When weighing these considerations, he says a company should take into account the age of its PBX system. It may not yet need replacement.

Some PBX vendors support VoIP without the need to change their PBX hardware architecture. These vendors provide VoIP interface cards that make an IP network look like a T1 line. Other vendors make hublike devices for the PBX that use VoIP for interswitch communication and

that support a combination of VoIP or conventional telephone handsets off each hub, Peterson adds.

MegaPath bundles voice and data on a private, vendor-operated network and offers the opportunity to use the existing PBX network. Telesphere offers hosted PBX, which takes PBX offsite and includes VoIP on the centrally hosted platform.

Of course, a company could choose to do away with PBX entirely and bring in a

Phone Backup

Unlike analog phones, those running VoIP will go down with the network. Therefore, companies implementing a VoIP system can't forget a backup, says Matt Kightlinger, director of solutions marketing for Emerson Network Power's Liebert Productions division (www.liebert.com).

Many VoIP networks and the supporting routers and servers run on relatively inexpensive UPS systems to maintain electricity during a power outage for a predetermined length of time. Some include battery backup. The amount of time typically ranges from as little as an hour to nearly unlimited time, depending on the quality of the UPS unit and the power draw and characteristics, Kightlinger says.

To save electricity when the phones aren't in use, consider an automated method of powering down phones, says Heath.

VolP can reduce communication and infrastructure costs because it routes phone calls over existing data networks and avoids duplicating network systems.

VoIP network. Another option is a software-based softphone, which lets you place and receive calls using the computer on which the software resides. Trost says the caller is limited to a single point of calling when he uses a softphone.

In terms of cost, several companies charge per seat for both telephone and data services.

Don't Forget The Phones

IT executives need then to take a careful look at the hardware—the phones and any video equipment-they'll use when moving to VoIP, Bumbernick says.

"An analog phone line is an analog phone line. You buy a RadioShack phone and it'll work in your office because it's all standardized," he says. "But the same isn't true in the VoIP world."

Typically, a company can lease a specialized VoIP phone from a vendor or purchase one outright. When shopping for VoIP phones, Bumbernick suggests keeping proprietary issues in mind.

"Some phones only work with certain providers or switches," he says.

Companies that don't want to purchase VoIP phones for every employee can look into a hardware-based VoIP adapter that connects traditional analog phones. The converted analog phones' signals can then be connected to multiple house phones or extensions, just as any traditional phone company signal can be connected, Heath says.

Which brings Bumbernick to express another important point: Companies must also ensure the IT staff brings the proper intelligence to the job.

"There's always been the traditional phone guys and the data guys, but VoIP means a true convergence," he says. "So your phone guy needs to have knowledge of the aspects of data and vice versa."

"They don't use a lot of energy, but when you're talking about a lot of phones, power adds up," he says.

A New Attitude

Although companies can expect to reap the benefits of VoIP, they may need to acknowledge the move will come with a culture change—at least as it applies to telephone usage, Bumbernick says.

That can be a painful process, he acknowledges.

"If you have an old phone on your desk that's what you're used to using, or if the company is used to call flows, you want to keep doing it that way," he says.

What You'll Need

- A place for the VoIP system to reside. A closet-sized room is small, just be sure it's adequately cooled, says Matt Kightlinger, director of solutions marketing for Emerson Network Power's Liebert Productions division.
- An assessment of the age of your PBX system and its effectiveness. A company may be able to use a newer system as a VoIP hub. It may be time to retire an older system and install a VoIP network.
- An IP phone for each employee. Ensure the phones are compatible with your system.
- A strong LAN. It may need shoring up
- A method of training employees on how to best use the new system. Their phones include more features than analog phones, and they'll want to take full advantage of those features.

TOP TIPS

- can still make use of its present PBX system.
- Don't forget to factor hardware (phone) costs into the VoIP equation.
- Some VoIP vendors offer the capability to queue
- calls virtually, which makes Take full advantage of sense for companies using the technology within call centers.
 - Companies will need to back up their VoIP systems, which go down when electricity goes out.
- all the bells and whistles VoIP can provide, such as automatically routing calls to offsite numbers.

Power-Efficient Storage Systems

Continued from Page 22

Santilli. This dense packing is accomplished by alternatively mounting the drives to reduce vibration and to make sure that only 25% of the drives are powered on at any given point in time.

Lastly, data integrity is often a concern in power-managed systems. The fear of the drive actually turning back on is often raised as an objection. This can be addressed by periodically powering the drives on and exercising them by validating the data on those drives. "As a result of powering the drives off and with proper periodic data validation, the drive service life can actually increase beyond the expected norm," concludes Santilli.

Focus On Primary Storage

With data moved to secondary storage, either at an offsite archive or a power-

managed internal storage system, the focus needs to return to the primary storage and how you will demonstrate power reduction. It can be justified by simply showing the delay in future primary storage, which would obviously require budget dollars and power.

In many cases, so much space has been saved off of primary storage that terabytes of free space are available. The challenge is that

this old data is not sequential but spread out in varying segments across drive shelves. Restriping arrays across fewer shelves and powering off those shelves can have further reclamation of power. This can be a timeconsuming task, but it may be well worth it if three or more shelves can be powered off.

Achieving power-efficient storage is challenging, but by identifying and migrating old data to power-efficient secondary storage and then reorganizing the remaining active data, significant power savings can be had.

SIX QUICK TIPS

Monitoring Your Data Center's Environment

Tips To Help The SME Keep Tabs On The Pulse Of IT Equipment

by Bruce Gain

MOST DATA CENTERS by now rely on monitoring systems to track CPU temperatures, storage capacity, power consumption, and other activity in real time. And as many have learned firsthand, just one missed alert due to a gap in the process can mean lost data or destroyed equipment. Making sure that your monitoring system is comprehensive and reliable is thus crucial for today's data center.

To help you to make sure that your monitoring system bolsters your IT infrastructure the way it should, here are some tips to better implement the process in such a way as to realize its full potential.

Find What To Improve

Monitoring, of course, is largely used to help prevent disasters by detecting problems and then alerting you about something that is wrong. A comprehensive monitoring system suite—among many other things—should indicate sudden spikes in CPU temperatures, which could mean that the cooling system is not working properly or that a cluster of servers' hard drives are reaching full capacity, so that you can take action before a storage bottleneck occurs. But while admins almost invariably have some sort of monitoring system in place to help mitigate worstcase scenarios from happening, the first thing that any admin can do now is to find ways to improve on what is already in place, says Brad Wilson, chief technical director for Geist Manufacturing (www.geistmfg.com)

"The first step in any monitoring project is to determine where the faults are, where the problems are, or where there is a perceived need for improvement," Wilson says. "From that, determine what metrics can help define that area of pain and, in turn, find ways to measure those parameters and that which gets measured and improved. Without a goal of what [there is] to improve, it may well be in vain."

Cover Your Bases

Monitoring systems vary widely, from smoke-detection sensors to real-time IP traffic analysis. Given the wide range of options, there is the risk that there may be gaps. You may have a state-of-the-art processor temperature sensor system in place but lack something else in a critical area. To make sure your bases are covered, there is a checklist of basic capabilities that you should have in place, says Brad Kowal, an IT manager for Shands HealthCare in Florida. At a minimum, the configuration should monitor equipment's "up and down status," CPU utilization, and storage levels, Kowal says. A package should also offer

SNMP monitoring "to monitor systems other than servers," he notes.

Keep Close Tabs On Power

You may be able to monitor your IT infrastructure's total power usage, but it may turn out that individual equipment may be wasting power in ways you were not aware of. It is thus important to monitor the entire power supply chain to break down the consumption of individual data center components for a more effective analysis of your data center's electricity use.

"Many data center managers know that their data center consumes a certain amount of gigawatt hours, but they don't know where this power is going, how much of this power is used for cooling, how much is used for transformers and UPSes, or how much is coming in the data center," says Julien Ardisson, CTO and CIO of Strato Rechenzentrum, a Web-hosting company based in Germany. "It is important to determine through monitoring how much power different IT equipment really uses."

A common scenario that IT departments find after implementing a more detailed power monitoring system is that the data center's servers use only 30% of an IT department's total power consumption, while the IT equipment that sits outside of the data center's walls, such as cooling systems, consumes the rest, Ardisson says. "You really need to set up a monitoring system to measure power consumption supply before and after the transformer, after the UPS, etc., and then you can compare," Ardisson says. "You then can later see that if you use 30% of your energy to cool the servers, then it might be possible to drop that number down to 25%. If you don't have those figures, then you never know."

Store The Data

You may have an adept monitoring system in place that offers real-time information about the status of crucial components and processes. But how do today's readings compare to those of last month or the year before? What are the near- and long-term trends? Also, with so much data to sift through, how do you piece it together to make coherent planning decisions? This is where software that records

Best Tip:

Start Small, Think Big

Numerous monitoring solutions exist, but unfortunately, vendors tout different and various features of their offerings as "must haves" for your data center, thus clouding the selection process. Truth be told, a product suite that covers the basics will cover most of your bases. So before buying into a window-dressing utility bundled with highend offerings, investing in something basic to start can be a good way to get your feet wet-while saving big costs.

"Don't over-process your immediate needsstart small. You can go low or no cost [with open-source ware]," says Brad Kowal, an IT manager for Shands HealthCare in Florida. "Select a simple monitoring package—they're out there—and as time goes on, you can upgrade."

Best Return On Investment:

Look At TCO

An immediate way to save costs—which also means you will see a return on investmentis to look at a monitoring solution's "total cost of ownership," says Brad Wilson, chief technical director for Geist Manufacturing (www .geistmfg.com). "You need to consider a solution that allows several sensor types to be used with a single interface [when determining the TCO]. The main solution should have a simple access method, such as standard Ethernet protocol," Wilson says. "The units should have a good warranty, but be careful not to be saddled with ongoing support costs or license fees."

monitoring data points and pulls everything together in a single interface is useful. Among other things, this information can help you make key decisions, such as when it's time to replace equipment ahead of time. Useful information software suites can offer includes what days your servers' CPUs run at their peak loads, power consumptive trends, and other important trend analysis.

"Any monitoring project should have some way to aggregate and store the collected data. A single system can end up with hundreds or thousands of points monitored, when temperature, humidity, airflow, light, sound, water, smoke, voltage, current, power, and any number of other potential parameters can be monitored at several places," Wilson says. "The availability of easy-to-use, economical console software is key."

BONUS TIPS

■ Better forecast hardware upgrades. Besides warning you of hiccups and problems, the monitoring solution can play an integral part in product planning. Monitoring should, for example, enable you to address storage capacity constraints long before bottlenecks occur. By tracking CPU and memory usage, you should be able to mark on the calendar when it will be time for a future

processor or RAM upgrade, Brad Kowal, an IT manager for Shands HealthCare in Florida, says. "Improving your monitoring allows you to better predict whether hardware upgrades will be required or not, improving your ability to allocate capital to the areas that need it," he notes.

■ Stay alert. The best monitoring system in the world is going to do you no good if you do not

when something goes wrong. While admins obviously need to disconnect from work, someone who can take action still needs to know when crucial servers or systems are down, whether you are on the golf course or are just down the hall in the lunch room. "Select a package that, at a minimum, has SMTP email alerting," Kowal says. "Set up alerts to email or page you on thresholds you deem critical."

receive real-time alerts if and





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WHAT'S HAPPENING

Industrial-Strength Searching

dtSearch Picks Up Where Traditional **Search Engines Leave Off**

by Drew Robb

THERE ARE MANY PRODUCTS OUT there today that will search data for you. But sometimes, traditional search engines just aren't enough, and that's where dtSearch comes into play.

The various power tools within the dtSearch (301/263-0731; www.dtsearch .com) product line can instantly search terabytes of text across a desktop, network, and Internet or intranet site. It can search public or private sites and can be tailored to search only the office computers residing within a corporation, for instance. Similarly, a catalog of automobile parts can be made available to a company's distributors and suppliers so that the parts database is available on their sites. It can even be directed to search content in Web pages. In addition, these services can serve as tools for publishing with instant text searching as well as large document collections made available for Web sites or on CD/DVDs.

"We can provide over two dozen indexed, unindexed, full-text, and fielded data search options," says Elizabeth Thede, vice president of sales at dtSearch. "dtSearch products display Web-ready content with highlighted hits and with all images, links, and formatting intact. The products include proprietary built-in HTML converters for hit-highlighted display of other popular file types."

Imagine a search for a specific piece of information that is on page 53 of a 93-page PDF and that lies five levels deep on a particular Web site, such that once you arrive at the site, you have to click four more times before you get to the document. Such a document probably won't show up in any regular search, and the specifics certainly won't be located. Using a spider (a program that searches the Web methodically, also known as a Web crawler), dtSearch can find the exact fact on page 53 regardless of how many levels down it resides. Further, it highlights that information in the document.

Partnering For Success

This array of offerings has developed over many years. dtSearch started R&D in text retrieval in 1988 and in 1991 became incorporated in Virginia. Later that year, it began marketing the first dtSearch product.

"We started out as a desktop search application," says Thede. "Then we began to market a developer OEM component, i.e. the dtSearch Engine. We now offer the dtSearch Engine for Win and .NET and the dtSearch Engine for Linux, along with dtSearch Web with Spider and a range of other products."

That has opened the door for dtSearch to be integrated into application suites sold by other companies. Take the case of Winter Haven, Fla.,-based DocuLex (www.docu lex.com): The company's Archive Studio software system provides information access to people working on projects in-house or remotely. The browser-based content management software facilitates the capture and indexing of electronic documents, as well as paper documents via OCR (optical character recognition). Permission-based access is assigned to colleagues to add input or to view information an organization needs them to see. Any added content is monitored to track documentation revisions throughout the project's life. A portal is also provided where users can access information, securely share content, and collaborate with third-party individuals or organizations without the need to administer user logins.

"The key component to effective collaboration is DocuLex's WebSearch, powered by



dtSearch's blazingly fast yet reliably accurate search engine for Windows and .NET," says Tim Nissen, marketing director of DocuLex. "The software-as-a-service version facilitates online, browser-based content management providing remote document access, permissions, printing, and distribution."

He explains that users are presented with a custom portal designed specifically to their content management needs, including scanned paper converted to PDF and electronically created files in their native formats (including email with attachments), providing Internet access to documents anytime and anywhere, without the costs and responsibility associated with owning and supporting a document management system.

"The combination of DocuLex and dt-Search is aimed at records center clients that have information siloed with various staffers throughout their organization and no quick and easy way to bring the people and data together," says Nissen. "The service was created for data centers that are warehousing business documents to enable their availability digitally through the Internet for client access. It enables secure document warehousing and sharing for practical knowledge management and collaboration."

Industrial-Strength Functionality

The development of OEM relationships is an area of strong growth at dtSearch and one that is of strategic importance in future expansion. But this type of project far from represents all that the company can do. All products can index more than a terabyte of text in a single index, as well as create and search an unlimited number of indexes. Even across terabytes of data, the search time is typically less than a second. Such capabilities have garnered several awards; the dtSearch product line has been termed "industrialstrength," for example, because of this ability to almost instantly search terabytes of data.

That's really where dtSearch separates itself out from other search engines. dtSearch is concentrating more and more on the heavy-duty search category to differentiate itself from competitors. Most recently, it has developed a 64-bit version of its search tool, and more products are to become available in the near future.

"Our focus is on industrial-strength text search and retrieval," says Thede. "Having a native 64-bit version of our developer products is part of that continued push towards indexing and instantly searching ever greater quantities of data efficiently and reliably."

In addition to expanding its 64-bit line, dtSearch is focused on international language support. It already covers all primary languages and is working to add even more.

THREE QUESTIONS

Cooling Where You Need It Most

Data Aire Provides Precision Air For IT Gear

by Daniel P. Dern

Providing Precision cooling for computers is not the same as conditioning the air in homes or offices, says Jeff Trower, general sales manager at Data Aire. And maintaining near-absolute control over air quality is essential to the health and uptime of IT and network gear. Exceed the recommended ranges, and equipment may go down or components may fail, resulting in unplanned service costs or even more expensive application downtime.

"It was clear from the start that 'people comfort' air-conditioning systems were unable to meet the high sensible heat loads required without overdrying the air," says Trower, who has been with Data Aire (714/876-2848; www.dataaire.com) for more than a decade. "Data Aire brought together three environmental disciplines for the precise control of temperature, humidity, and airborne particulates. That concern for the total quality of the operating environment resulted in what is now termed 'precision air."

Today, Data Aire products are providing precise environmental control in thousands of facilities. Typical uses for Data Aire's CRAC (computer room air conditioning) products include in communications closets, data communications rooms, UPS battery rooms, older office buildings, office telecom rooms, and large computer centers.k

■ What are the biggest ITrelated issues facing today's small to midsized enterprise?

According to Trower, cost-effectively maintaining appropriate air environments in computer rooms and data centers is a growing concern.

"There's a lot of unnecessary cooling over-provisioning," says Trower. "While there are some 30kW server cabinets out there, there's still many racks with only 3 to 5kW of gear in them."

Also, says Trower, cooling is often provisioned based on the 'nameplate' rating-the kilowatt load stated on product nameplates, which he says "is a worst-case rating. The real load might be more like 40% of what the nameplate states. And there's little risk to designers or construction to over-provisioning. So it's important to ask vendors for more information, and if you have any gear already installed, measure it and provision based on this data."

■ What should *Processor* readers know about your company's products?

"We do CRAC for spaces from small data closets up through

huge data centers," says Trower. "Our products provide programmable control of temperature, humidity, and particulatesthey're fully programmable and can be computer monitored." By integrating the different air processing functions, Data Aire is able to provide precise control of the room environments needed for sensitive equipment and easily maintain close-tolerance parameters.

Data Aire's product family includes floor-mounted airconditioning units in capacities ranging from 2 to 50 tons; ceiling units in capacities of up to 13 tons for limited-floor-space environments; specialty units, including wall- and shelf-mounted units for when a facility has limited floor and ceiling area; heat exchangers in capacities of up to 100 tons; and system controls.

What makes your company unique?

only thing we do," says Trower. "We don't make the chillers, which provide chilled waterthose are a completely different we do other computer-room products or 'comfort' AC. And we've been in this business for four and a half decades—there's only one other domestic company that can match that statement."

Data Aire is willing and able to customize equipment to meet the unique needs of a given customer's installation, notes Trower. The company does thorough testing before it ships to ensure its products will provide long, reliable service. And, Trower says, "We have the fastest delivery upon order-the shortest lead time in the industry."

Data Aire is also a leader in utilizing new technologies, such as scroll compressors, canister humidifiers, and variable-speed motors in its plenum fans (plug fans), which help reduce energy consumption, and is a pioneer in control development, such as ensuring interoperability with building management systems. "We do ongoing product design and development," says Trower. "[As] the application needs continue to change, we will have products to support these new requirements."

"Computer room cooling is the type of different product. Nor do

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